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Canada, North American Security and NORAD

George Lindsey

When the early years of the Cold War presented North America with the threat of attack by long-range Soviet bomber aircraft armed with nuclear weapons, Canada and the United States reacted by creating the North American Aerospace Defence Command (NORAD), one of the most fully cooperative, lasting, and successful bilateral defence arrangements in history. Its first major responsibilities were to supply the early warning needed to get American bombers off the ground before their bases were hit, and to provide active defence for the protection of military and civilian targets in the U.S. and Canada.

As the Cold War developed, the threat of Intercontinental Ballistic Missiles (ICBMs) and Submarine Launched Ballistic missiles (SLBMs) was added to that of bombers, and NORAD was charged with early warning of the launching of long-range missiles, to make it possible for American missiles to be launched before their silos and airfields were destroyed. No means existed for active defence against the Soviet missiles once they were launched, but the assured capability to retaliate, with the consequence of assured destruction, provided the deterrence to prevent an attack from ever being launched.

The demise of the Warsaw Pact, and the end of the Cold War, have removed the threat of a massive intercontinental attack on North America. However, the United States is concerned over the possibility that some hostile state may acquire ICBMs armed with nuclear or biological weapons, or that ICBMs in the Russian or Chinese arsenals could be launched by mistake. And, probably of more importance today, both the US and Canada have good reason to be alarmed over the threat now posed by the activities of the widespread and malevolent terrorist movement, whose actions cannot be deterred by the capability for an instant intercontinental retaliatory counter-attack.

The threat from terrorism offers a singular opportunity for NORAD to expand its role in the defence of North America, and this in a way that will increase the significance of the Canadian contribution and fortify the collaboration between Canada and the United States. Canada has not only a responsibility but a clear national interest in collaborating with the United States for the defence of the shared North American continent. The question we face is how best to exercise that responsibility.

After the boost phase is completed the final stage of the missile enters its ascent phase, now offering a smaller target and no hot exhaust, and the possibility to complete an interception still demands early reception of launch and a fast-moving interception vehicle.

There is no doubt that each of these layers of defence against ICBMs would require the detection of launching, subsequent tracking, and transmission of data that can be supplied by sensors based in space. But in all probability the weapons that would destroy the target would be based on the ground, on ships, or on aircraft, and not in space. It is not clear to what extent defence of US home territory would benefit from the siting of some of the components in Canada. The most effective protection of American targets located close to the Canadian border would probably require the location of some of the elements in Canada. And the location of weapons designed for terminal defence would probably affect the degree of protection that could be afforded to certain Canadian cities.

The fifty year history of American projects (Sentinel, Safeguard, Strategic Defense Initiative, Global Protection against Limited Strikes, National Missile Defense), intended to provide defence against Intercontinental Ballistic Missiles, coupled with the current litany of test failures, cost overruns, and schedule postponements, testify to the extraordinary technical challenges which are posed by the problems of interception in the mid-course phase of an ICBM's trajectory.

Shorter-range Missiles

On the other hand, some success has been attained with the less formidable problems of intercepting ballistic missiles with much less than intercontinental ranges, and also with cruise missiles.

There is good reason to give greater priority to the threats posed by theatre-range ballistic missiles (TBMs) and by cruise missiles, than by intercontinental missiles. Various types of shorter-range missiles exist in considerable numbers today, and could be used against the naval and air bases of international peace enforcement missions in many parts of the world, to say nothing of other targets on the territory of cooperating or allied states within range of these weapons.

The US Army is proceeding with improvements to Patriot, which has capabilities against cruise and short- range ballistic missiles, and with the more advanced Terminal High Altitude Area Defense (THAAD). While the current version of THAAD is designed to intercept short-range ballistic missiles, it may be possible to develop a later version able to intercept ICBMs in the descending phase of their trajectory. The US Navy, which has had a long history of defending its ships from missiles launched from aircraft, surface ships, and the land, is extending the capability of its Standard missile (SM-3) to be able to intercept ballistic missiles as well as cruise missiles and aircraft. The US, Germany, and Italy are collaborating on the deployment of MEADS (Medium-Extended Air Defense

such as oil and gas pipelines, electrical generating stations and transmission lines, and dams, which are of great importance for industry and normal life in both Canada and the United States, are in remote sparsely populated areas of the continent. Continuous surveillance of these areas could be provided by the same type of equipment that NORAD will need for overhead surveillance of the seas.

It will be necessary to exploit the rapidly developing technologies of overhead surveillance, to equip the aircraft and satellites reporting to NORAD with the sensors best able to detect both aircraft and ships, and to obtain high-definition imagery of objects on the ground, whether stationary or moving, by night as well as day, in bad weather as well as good.. There will also be a need to expand NORAD's capabilities for collecting, processing, displaying, and analyzing vast amounts of rapidly changing information, and rapidly communicating its conclusions and recommendations to the appropriate authorities.

WEAPONS IN SPACE

A subject which has the potential to obstruct binational planning for NORAD is the possibility of weapons being deployed in space. The American search for an effective defence against ICBMs is exploring a wide variety of possible methods. Some of these would depend on the orbiting of antimissile weapons in space. Several experiments were conducted during the Cold War, by both the USA and Russia. None of them is, or ever were, anywhere close to deployment of an operational system. But, with their long experience in the planning of complicated weapon systems using constantly developing technology, the US is not in a mood to foreclose today any option which might at some future time provide them with a desirable system.

Canada, on the other hand, has for many years been a strong advocate of the application of arms control to prevent the introduction of weapons into space. But the case is often pressed on general principles and moral and ethical grounds, rather than on strategic or technical calculations.

While this issue is not central to the case for a Canadian focus on the threats from shorter- range missiles and on improvements in surveillance capacity, it has of course attracted a good deal of attention and concern in the context of the discussion of Canadian participation in the US missile defence program.

(The accompanying paper by Ron Cleminson presents the case for developing a strong regulatory system for the use of space – for military as well as the increasingly important commercial uses.)

A weapon in space might be intended to attack targets on the surface of the earth, but ballistic missiles are simpler weapons, can be launched at any time, and are a good deal easier to conceal than satellites in their orbits.

We should encourage the US to place their defences against ICBMs under the control of NORAD, and to indicate to us whether any of their plans would be significantly strengthened by installations in Canadian territory. But we should express a Canadian preference to make our contribution to missile defence by engaging in the research and development for defence against shorter-range missiles. Short-range ballistic and also cruise missiles are distributed among many countries today, and pose a threat for operations overseas in which both American and Canadian troops could be engaged. And as defences against short-range ballistic missiles are improved, they will begin to acquire limited capabilities for multilayered defence against ICBMs.

To summarize, we recommend that Canada participate in an expanded NORAD, as a full partner, reconfigured to serve the needs of Canada and the United States against terrorism as well as attack by long and short-range ballistic and cruise missiles. A major step would be to improve the capabilities for overhead surveillance of the Canadian landmass and its sea approaches.

At the same time we should help and encourage the US and other states to pursue the development of arms control in space.

G.R.L.

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