



# ARCTIC SECURITY BRIEFING PAPERS

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## The North Warning System (NWS) and “what we cannot defeat”

***When a Canadian Armed Forces official recently told an Ottawa security conference that “we cannot deter what we cannot defeat, and we cannot defeat what we cannot detect,” his audience may well have heard it as the credible proclamation of a prudent and resolute defence posture. In truth, the statement seems to run counter to decades of defence policy and practice. It ignores the inconvenient reality that there is no defence against a nuclear attack, even though current and planned early warning systems ensure that such an attack would be reliably detected.***

That statement, by a Canadian Commodore<sup>1</sup>, is evidently a central NORAD talking point since it was repeated weeks later in two appearances by the NORAD Commander at the US Senate Armed Services Committee.<sup>2</sup> In each case, the assertion that “we cannot deter what we cannot defeat” has come in the context of urgent calls to modernize the North Warning System (NWS), the network of early warning radars across the US and Canadian north. The need to update the system has been getting prominent attention from Canadian analysts and military planners – but, so far, no attention from budget planners.

The impetus behind the hoped-for modernization is the justifiable concern that the existing warning system has not kept up with evolving technologies and changing security conditions in the Arctic. The most immediate changes follow from the region’s increased accessibility for civilian transportation and resource extraction, bringing law enforcement, emergency response, and public safety requirements into much sharper focus. A critically important dimension of an updated NWS will thus be improved situational awareness in Arctic land, air, and sea domains in support of the day-to-day operations of the relevant civil authorities, assisted by the Canadian Armed Forces.

But the focus of the national security establishment has all along been on changes to the strategic environment – including post Crimea relations with Russia, the growing military presence of Russia in the Arctic, and China’s Arctic interests. That said, the specific developments most often cited – like Russia’s long-range cruise missiles, Russian and Chinese hypersonic glide vehicles, and offensive cyber capabilities – are technology-induced changes in the global strategic environment that have little to do with climate change in the Arctic. NORAD’s push to modernize the NWS is more directly driven by the ambition to mount a continental strategic defence initiative against evolving strategic threats<sup>3</sup> than by a need for more effective Arctic domain awareness in support of sovereignty patrols, regional maritime and air surveillance and control, and public safety.

If NORAD truly assumes that “we cannot deter what we cannot defeat,” and insists that applies to strategic ballistic and cruise missiles carrying conventional or nuclear warheads, then it stands to reason that strategic missile defences would take on a special urgency. But the result is an aspirational, which in this case means a futile, pursuit of systems designed to defend North America against strategic weapons. Erecting an impenetrable shield against strategic weapons is not a new dream, like the Star Wars scheme imagined by Ronald Reagan in the 1980s, but the central dynamic of the East/West confrontation has always been, and remains, the recognition that defending against or defeating a strategic ballistic and/or cruise missile attack is impossible. In other words, the basic response to that threat is in fact not defence but deterrence – the strategy being to deter what cannot be defeated.

Once a nuclear attack is launched, it can't be stopped, despite the billions spent on trying to devise a defence. Reagan and Gorbachev finally came to the right conclusion: once started, a nuclear war cannot be won and so it must never be fought<sup>4</sup> – hence the need to deter (prevent) nuclear attack. Given the long-standing acknowledgment that there is no defeating a massed attack by Soviet/Russian strategic nuclear bombers or the cruise missiles they launch, and no defeating Soviet/Russian or Chinese intercontinental ballistic missiles, Canada has for just as long supported the nuclear deterrence strategies of its allies – the operating assumption of that policy being, not that “we cannot deter what we cannot defeat,” but that we must deter what we cannot defeat.

NORAD was formally established by Canada and the United States in 1958, when there was still an intention to defend against, to defeat, Russian bombers. But already by the end of the 1950s NORAD did not have, and certainly does not now have, the means to defeat a massed Soviet/Russian nuclear bomber attack on North America – and stopped trying. In that early post-Sputnik world, intercontinental ballistic missiles had already become the central nuclear threat, and as a result NORAD no longer maintained the numbers of interceptor aircraft that would be needed to mount a credible defence against a massed attack of Russian strategic bombers. Over time, the Russian bomber threat morphed into the air-launched cruise missile threat (missiles that can carry conventional or nuclear warheads), against which there is no credible defence. In the event of an attack, NORAD's air defence forces, to which Canada currently contributes CF-18 fighter interceptors in addition to the coastal radars of the NWS, might well intercept some of the advancing cruise missiles, but many more than enough would get through to visit immeasurable destruction on North America. No impermeable defence shield is possible – preventing attack in the first place is the only realistic security option.

And that same reality applies doubly to intercontinental ballistic missiles. Neither NORAD nor NATO has ever had the means or prospect of defending against Russian and Chinese intercontinental or strategic range ballistic missiles. So certain are the western allies of this sobering reality that they, sensibly, don't even try to mount a defence – with both the Pentagon and NATO insisting explicitly that the north American-based strategic ballistic missile defence mid-course interception system and the European NATO ballistic missile defence deployments are intended only to intercept isolated and very limited attacks, of the kind North Korea might one day be able to mount – the defences are not aimed at Russian or Chinese missiles.

Defence against the nuclear forces of major powers is neither possible nor even contemplated. The history of strategic defence has been the pursuit of an impossible mission at the cost, not only of vast sums of taxpayer dollars and rubles, but of strategic stability. Any attempt to deploy missile defence systems aimed at an adversary's strategic forces would simply lead to the rapid expansion of inventories of offensive missiles. When it comes to strategic nuclear forces, anything less than 100 percent defence effectiveness spells disaster – and offence will always overwhelm defence. The West cannot beat Russian and Chinese strategic nuclear weapons systems, so, again, the chosen response is to focus on deterring what you can't defeat.

The insistence that “we cannot defeat what we cannot detect” implies that what can be detected can be defeated. The point however is that attacking missiles and aircraft are reliably detectable, but that doesn't mean they can be defeated; it means only that deterrent forces can be alerted for immediate counterattack. Attacking strategic nuclear forces simply can't be defeated with anything close to what might be credible protection to North American populations, and a modernized NWS won't change that.

The hope for an effective strategic defence shield leads, inevitably it seems, to musings about new technologies and strategies – some of the latter adding more to the dangers than to security. Notably, the hope of developing more effective NORAD air defences drives the pursuit of a modernized North Warning System with a capacity to detect Russian bombers, ships, and submarines much further out in international air and ocean spaces, before they get close enough to North American shores to launch their cruise missiles our way.<sup>5</sup> The idea is to

take out the “archers,” bombers and vessels, to avoid having to face whole quivers of “arrows” in the form of air- and sea-launched cruise missiles that those archers could launch. Of course, it is acknowledged that “there is no guarantee” that all cruise-missile carrying bombers, ships, and submarines could be pre-emptively destroyed<sup>6</sup> – hence the calls for the new NWS to also have the capacity to identify and track the cruise missile arrows.

Key Canadian academic experts on NORAD thus conclude that “a modernized NWS for the Arctic needs to be capable of identifying and tracking Russian LRA [long range aircraft] far into the Arctic Ocean and beyond *into Russian territory*” (emphasis added). That in turn would require that forward operating locations of Canadian interceptors be moved further north (e.g. to Alert, Canada’s most northerly base at the northern tip of Ellesmere Island, or even Greenland).<sup>7</sup>

The obvious implication is that NORAD would have to be prepared to launch pre-emptive attacks on Russian aircraft in international air space, or even within Russian air space (or to launch pre-emptive attacks on Russian vessels in international or Russian bastion waters). In an environment of high tension, but before actual military hostilities, such a pre-emptive attack would guarantee the start of war; in an environment of conventional military hostilities, a direct attack on a Russian nuclear weapons capable system would guarantee escalation to nuclear attacks and counter-attacks. The experts thus acknowledge, albeit in rather understated terms, that “there are also political-strategic implications of such deployments being perceived by Russian authorities as a pre-emptive strike posture, and likely Canadian concerns of NORAD...undertaking an offensive posture.” In other words, preparing NORAD for pre-emptive strikes against Russian national territory would be de-stabilizing and (rightly) regarded as controversial by Canadians.

Not everything that can be detected can be defeated – nor is it always prudent to try. Indeed, proponents of efforts to mount comprehensive continental defences against strategic weapons betray their lack of confidence in any strategic defence initiative when they at the same time propose point defences for key political or military centres in North America – elaborations of the kinds of point defence systems designed to protect forces within operational theatres from tactical attacks.

Improvements to the north warning system, to coastal air and maritime warning systems in the north, as well as to similar systems on the Atlantic and Pacific Coasts, are prudent in the interests of sovereignty and public safety, but they will not make it possible to defend against strategic weapons systems.

And, to be clear, it is operations in support of sovereignty and public safety, not defence against Russian or Chinese strategic forces, that are the primary, day-to-day work of NORAD. With the aid of frontier warning systems – the North Warning System and especially Atlantic and Pacific coastal radars – NORAD and Canadian Forces track and identify some 200,000 civilian aircraft that annually approach or enter Canadian airspace.<sup>8</sup> The key mission is to sort out which of those aircraft represent challenges to Canadian law enforcement, public safety, or security. These are operations primarily to aid civil authorities. As the Arctic becomes more accessible to small aircraft, and as maritime traffic increases, more of those surveillance/interception operations will have to take place in the north, beyond the Atlantic and Pacific coasts where the main action obviously is today.

Of course, as current reports of Canadian and American fighter aircraft escorting two Russian TU-142 Bear aircraft in international airspace over the Beaufort Sea, the NWS does also watch for Russian military aircraft patrolling near, but never entering, North American airspace (since 2007 when regular patrols were resumed, NORAD has encountered an average of about 10 such patrols each year).<sup>9</sup> If small numbers of those bombers were to invade North America, NORAD could muster the means to intercept them – but there is no credible scenario that would see the Russians launch such a limited, readily defeated, attack. The most recent case involved two Russian reconnaissance aircraft on routine training flights, but they were an occasion for Canada’s top general to describe Russia as the greatest immediate threat to North America.<sup>10</sup>

Russian training missions notwithstanding, the main point of the north warning system, including a modernized system, is and will remain domain awareness, the better to monitor and control those thousands of civilian aircraft and ships approaching our shores. And such domain awareness in turn serves civilian law enforcement, public safety, and national security – essentially in that order. The north warning system can and will contribute to early warning of strategic attack, not because that will make it possible to defeat such an attack, but because its function is to alert deterrent forces for possible counterattack as prescribed under deterrence. So, by all means, Canada will have to modernize the frontier warning system on all three coasts, but that will have enable effective defence against strategic attack.

Reports on Russia's new Arctic strategy<sup>11</sup> make it clear that Russia will continue to make the Arctic a centre piece of its economic development strategy. It calls for a major push to exploit the North's natural resources and expand the Northern Sea Route, with the former being a significant means to the latter. According to a *Barents Observer* report, the protection of sovereignty and territorial integrity also features in the plan, but the focus is on promoting investment (involving extensive tax breaks) in resource exploitation – oil, gas, and more – and developing related industries.

It's a plan that has grave implications for the global climate change crisis, but the military security implications of these Russian ambitions point to its need for stability and an investor friendly political/strategic environment in the region. But the American position, as articulated by NORAD's Gen. Terrence J. O'Shaughnessy, assumes that, when it comes down to it, Russia will ignore its economic development ambitions in the Arctic, and the attendant imperatives of geo-strategic stability, and instead use the Arctic as a launch pad for geopolitical and military adventurism and fomenting global conflict to no discernable end.

Direct military conflict with Russia and/or China that would involve North American territory is not an impossibility, but it remains highly unlikely. Such a conflict is unlikely because it would serve no one's interests. It's another example of the kind of war that could never be won by any party and should never be fought. Any direct combat between or among advanced states involving the modern, hi-tech, highly destructive conventional forces of major powers would so rapidly inflict massive and unacceptable damage that only losers would emerge. But the truly sobering reality is that direct east-west military hostilities would inevitably escalate to the use of nuclear weapons, and, to repeat, credible defence against nuclear weapons is impossible.

That leaves prevention – with deterrence, arms control, and the pursuit of cooperative strategic security relations being the means to that end. The first of these, deterrence, obviously cannot escape the reality that failure comes with extraordinary consequences – namely, annihilation; while the other two, disarmament and cooperation, are currently decidedly out of fashion.

The main point about nuclear deterrence is that, contrary to NORAD's talking points, it does not rely on the capacity to defend. In nuclear strategic terms, deterrence rests on the capacity and intent to launch devastating counterattacks after having sustained an attack against which no defence was possible. That's obvious enough, but when senior military officials insist it is not possible to deter what cannot be defeated, the basics of deterrence obviously need to be restated. The irremediable danger, one that has burdened the world since the dawn of the nuclear age, is that when deterrence fails, and human systems are destined to fail at some point, when prevention fails, the prescribed formula is for a nuclear attack to be followed by nuclear counter-attack, even though the inevitable consequence would be escalating attacks and unprecedented catastrophe – that is, mutually assured destruction (MAD). The hope at the root of this strategy is that the capacity to annihilate is what will prevent annihilation.

It would be hard to design a less rational foundation for global security. Indeed, the international community has since Hiroshima agreed, at least in principle, that nuclear arsenals must, for the sake of the planet and the humanity it hosts, be prohibited and eliminated. Even the major states with nuclear weapons are part of this

global consensus. They signed on to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) and to a legal obligation to disarm, though they obviously remain disinclined to meet those unambiguous disarmament commitments – and there is no global cop to make them. So the world is left to rely on international nuclear disarmament diplomacy, and the public pressure and political pursuit of the cooperative security arrangements needed to drive it forward. The 2020 NPT Review Conference, to be held in April,<sup>12</sup> will be the next occasion when the world makes another concentrated effort to nudge states with nuclear arsenals toward behaviour that is more responsible and guided by the detailed disarmament agenda that NPT member states have collectively elaborated over the decades.

That effort is made all the more challenging when the very real limits of defence, the fundamentals of deterrence, and the consequences of failed deterrence are either misunderstood or misrepresented.

## Notes

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<sup>1</sup> “Senior Canadian military officer warns NORAD needs upgrades as Russian, Chinese militaries advance.” *The Globe and Mail*, Canadian Press, 29 January 2020. <https://www.theglobeandmail.com/canada/article-senior-canadian-military-officer-warns-norad-needs-upgrades-as-russian/>

<sup>2</sup> General Terrence J. O’Shaughnessy, Statement Before the Senate Armed Services Committee, 13 February 2020, [https://www.armed-services.senate.gov/download/oshughnessy\\_02-13-20](https://www.armed-services.senate.gov/download/oshughnessy_02-13-20), and its Subcommittee on Readiness and Management Support, 3 March 2020. <https://www.armed-services.senate.gov/hearings/20-03-03-us-policy-and-posture-in-support-of-arctic-readiness>

<sup>3</sup> James Fergusson, “Missed Opportunities: Why Canada’s North Warning System is Overdue for an Overhaul,” Macdonald-Laurier Institute *Commentary*, January 2020. <https://www.macdonaldlaurier.ca/canadas-north-warning-system-needs-overhaul-new-mli-commentary/>

<sup>4</sup> The joint statement was made in Geneva in 1985. George P. Shultz, “The War That Must Never Be Fought,” *Defining Ideas*, The Hoover Institution, 12 March 2015. <https://www.hoover.org/research/war-must-never-be-fought-0>

<sup>5</sup> Andrea Charron and Jim Fergusson, “NORAD: Beyond Modernization,” Centre for Defence and Security Studies, University of Manitoba, 31 January 2019. [https://umanitoba.ca/centres/cdss/media/NORAD\\_beyond\\_modernization\\_2019.pdf](https://umanitoba.ca/centres/cdss/media/NORAD_beyond_modernization_2019.pdf)

<sup>6</sup> NORAD: Beyond Modernization 2019.

<sup>7</sup> NORAD: Beyond Modernization 2019.

<sup>8</sup> The Canadian Forces Base at North Bay, 22 Wing, as NORAD describes it, “is responsible for providing surveillance, identification, control and warning for the aerospace defence of Canada and North America....This surveillance and identification of all air traffic approaching North America (200,000 flights per year) is accomplished using radar information received via satellite from the North Warning System across the Canadian Arctic, coastal radars on the east and west coasts of Canada, and Airborne Warning and Control System Aircraft. All aircraft penetrating this radar coverage are detected and identified..., 24 hours per day, 7 days per week, [and] unidentified aircraft, aircraft in distress, or aircraft suspected of conducting illegal activities may be intercepted by CF-18 fighters.” <http://www.rcacf-arc.forces.gc.ca/en/22-wing/index.page>

<sup>9</sup> The average of about 10 intercepts annually is suggested by a table by the University of Calgary’s Rob Huebert, in: Andrea Charron and Jim Fergusson, “NORAD: Beyond Modernization,” Centre for Defence and Security Studies, University of Manitoba, 31 January 2019. [https://umanitoba.ca/centres/cdss/media/NORAD\\_beyond\\_modernization\\_2019.pdf](https://umanitoba.ca/centres/cdss/media/NORAD_beyond_modernization_2019.pdf)

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<sup>10</sup> “Canadian, US fighter jets intercept Russian aircraft off Alaskan coast,” *The Canadian Press*, 10 March 2020.  
<https://www.reddeeradvocate.com/news/canadian-u-s-fighter-jets-intercept-russian-aircraft-off-alaskan-coast/>

<sup>11</sup> Atle Staalesen, “Putin signs Arctic master plan,” *The Barents Observer*,” 06 March 2020.  
<https://thebarentsobserver.com/en/arctic/2020/03/putin-signs-arctic-master-plan>

<sup>12</sup> At the time of writing there has been announcement of postponement due to the coronavirus pandemic.