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## THE CONTINUED IMPORTANCE OF NORAD TO CANADA'S SECURITY

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**JCSP 43 DL**

***Exercise Solo Flight***

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TO CANADA’S SECURITY**

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## THE CONTINUED IMPORTANCE OF NORAD TO CANADA'S SECURITY

Canada has long enjoyed a secure place in the world, far-removed from the physical threats of invasion and protected by the remote geography of North America. Up until World War II, its citizens enjoyed the comfort of knowing that wars were events that were fought in foreign fields, far away with minimal, credible threat to the homeland. However, as the United States (US) showed the world when it unleashed its nuclear weapons to put an end to the war, there were emerging threats that could be delivered by air, capable of massive damage. As the atomic age was ushered in and the Cold War with the Soviet Union ramped up, these new threats became more credible, requiring a response. As an extension of its national security policy, Canada entered into an agreement with the US for mutual defence of North America and on 12 May 1958, the North American Aerospace Defense (NORAD) Command was officially formed to defend North America from aerospace threats.<sup>1</sup> This bi-lateral defence agreement between the governments of the two countries began as an air defence enterprise aimed at countering the long range Soviet bomber threat. Since that time, the focus of NORAD has shifted to counter many evolving threats; including symmetric, asymmetric, kinetic, and non-kinetic.

The Liberal government's recent defence policy, *Strong, Secure, Engaged*, highlights the importance of NORAD to Canada's security and provides a plan for re-investment and continuing close cooperation with our American allies. This paper will show that throughout the history of the NORAD enterprise it has played an important part in Canada's overall security

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<sup>1</sup> NORAD. Office of History. "A Brief History of NORAD." 31 December 2013. Accessed on 12 April 2018. p.5. <http://www.norad.mil/About-NORAD/>

policy and will continue to be a significant player in defending Canada from all threats both present and future. It will start with a detailed look at the history of NORAD and the changing, global security environment, including the emerging transnational, multifunction, multidomain threats that challenge NORAD today. It will then highlight the key capabilities within SSE that have a NORAD nexus and that are currently funded or earmarked for future funding. Finally, this paper will analyze the challenges and opportunities of the future by looking at the Evolution of North American Defence (EvoNAD) initiative and demonstrating the importance of NORAD and its potential expansion to meet the challenges of the future.

### **North American Aerospace Defense Command (NORAD)**

In the years following World War II, tensions with the powerful Soviet Union were high, pitting the United States against its previous ally in a battle of ideologies between the capitalist US and the communist Soviet Union in the Cold War. With both countries possessing nuclear weapons and neither side wanting to engage in another costly and bloody world war, both sides played a deadly game of chess, fighting proxy wars all over the world.<sup>2</sup> In the United States, there was considerable concern that the Soviet's long-range bombers, capable of delivering a nuclear payload posed a clear and present danger to the American people. As a result, the newly-formed United States Air Force (USAF) was tasked with providing a "defensive air shield" in 1948, under the leadership of the Air Defense Command (ADC). The threat was considered so grave that in 1954, a joint, unified command dubbed the Continental Air Defense Command (CONAD) was formed. This new command was formed with units from the Navy, Army, and Air Force, reflecting the seriousness of the Soviet threat. Early warning radar sites worked as

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<sup>2</sup> Encyclopaedia Britannica. "Cold War – International Politics," Last updated 11 May 2018. Accessed on 15 May 2018. <https://www.britannica.com/event/Cold-War>

tripwires which alerted fighter interceptors that Soviet bombers were inbound, allowing the appropriate response.<sup>3</sup>

Defence agreements between the US and Canada were the next step in the defence of North America as USAF planners wanted to place the radar tripwires as far forward as possible. In addition, an integrated command and control and interoperability between forces were recognized as essential to building a successful air defence shield.<sup>4</sup> While plans and negotiations started in the early 1950s, the real beginning of the Canada/US defence arrangement had its beginnings in the Ogdensburg declaration of 1940, which focused on the relationship of both countries in their mutual defence of North America.<sup>5</sup> In addition, at that time, the establishment of the Permanent Joint Board on Defence (PJBD) provided a mechanism for the military leadership and diplomats in the two countries to discuss and formulate plans for the defence of North America.<sup>6</sup> This included the formation of the North American Air Defense (NORAD) Command in May 1958, an official, bi-national agreement between the two governments for cooperation in defending North American airspace against external threats.<sup>7</sup> While the main threat at the time was from Soviet bombers, NORAD would begin to evolve to meet new challenges almost immediately.<sup>8</sup>

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<sup>3</sup> NORAD. Office of History. "A Brief History of NORAD." Dec 2013. Accessed 12 April 2018. p.3. <http://www.norad.mil/About-NORAD/>

<sup>4</sup> NORAD at 40 – A Historical Overview. Accessed 16 May 2018. <https://fas.org/nuke/guide/usa/airdef/norad-overview.htm>

<sup>5</sup> English, John R. "Canadian-American Relations." *Historica Canada*. Sept 2009. Accessed 14 May 2018. <http://www.thecanadianencyclopedia.ca/en/article/canadian-american-relations/>

<sup>6</sup> Fergusson, James. Canadian Defence and Foreign Affairs Institute. *Beneath the Radar: Change and Transformation in the Canada-U.S. North American Defence Relationship*. Dec 2009. Accessed 18 April 2018. p. 4. [https://d3n8a8pro7vhmx.cloudfront.net/cdfai/pages/41/attachments/original/1413661866/Beneath\\_the\\_Radar.pdf?1413661866](https://d3n8a8pro7vhmx.cloudfront.net/cdfai/pages/41/attachments/original/1413661866/Beneath_the_Radar.pdf?1413661866)

<sup>7</sup> Canada. Department of National Defence. The Permanent Joint Board on Defence – Background. Oct 2001. Accessed 14 May 2018. <http://www.forces.gc.ca/en/news/article.page?doc=the-permanent-joint-board-on-defence/hnmx19nf>

<sup>8</sup> There are arguments that NORAD was founded as much to protect Canadian sovereignty from a unilateral US response as it was as a way to defend against Soviet aggression, but that is beyond the scope of this paper.

Throughout the 1960s and 70s the focus of NORAD shifted from manned Soviet bombers to Intercontinental Ballistic Missiles (ICBMs), which necessitated a change in capabilities to meet the emerging threat. Space-based surveillance, survivability of command and control (C2), and improved indications and warnings had begun to replace the traditional reliance on fighters to intercept air-breathing threats.<sup>9</sup> In the late 70s, NORAD's mission set included warning and response to attacks from the air, space, and through unmanned missiles. This had such an impact on the NORAD mission that it resulted in a name change of the organization to the North American *Aerospace* Defense Command, reflecting the importance of overall aerospace surveillance and control.<sup>10</sup>

Re-investment in the 1980s saw a return to more traditional air defence roles with the building of the North Warning System (NWS) and improvement in capabilities with the introduction of fourth generation fighters such as the F-15 and the CF-18.<sup>11</sup> This was in part due to the recognition that space tracking of ICBMs from land-launched facilities provided good indications and warnings of an imminent attack, but Sea-Launched Ballistic Missiles and those delivered via long-range bomber still posed a significant threat. With the fall of the Soviet Union, NORAD again shifted focus and developed plans against potential terrorist cells using stolen Soviet cruise missiles to attack North America. This involved a reliance on Airborne Early Warning and Control (AWACs) aircraft to detect the low radar cross-section threat and to provide targeting information to the interceptors.<sup>12</sup> NORAD continued to evolve to respond to the prevalent threats of the day, waning in importance somewhat in the latter years of the 90s.

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<sup>9</sup> NORAD. Office of History. "A Brief History of NORAD." Dec 2013. Accessed 12 April 2018. p.6. <http://www.norad.mil/About-NORAD/>

<sup>10</sup> Ibid. 7.

<sup>11</sup> Ibid.

<sup>12</sup> Ibid. 8.

## NORAD – Post 9/11

One of the most significant periods of change for NORAD began in the aftermath of the 9/11 terrorist attacks on the World Trade Center and the Pentagon. In addition to protecting North America from a symmetric threat of state-on-state violence from outside North America, Operation Noble Eagle (ONE) in the US is designed to address the asymmetric threat represented by terror attacks that originate both within and outside North America.<sup>13</sup> In addition, the US government established Northern Command (NORTHCOM), which was commanded by the Commander NORAD in a dual-hatted role in charge of the bi-national NORAD forces and also in charge of US-specific NORTHCOM troops in charge of homeland defence. This represented one of the most significant departures between Canada and the US defence agreement as the Secretary of Defense, Donald Rumsfeld made a proposal to integrate land and navy forces within NORAD to create an overall, joint defensive umbrella. With Canada's refusal to expand the reach of NORAD, the bi-national agreement was over-shadowed by the bilateral, tri-command structure between US and Canadian forces.<sup>14</sup>

With the US focused on the terrorist threat from within, and with minimal, credible threat from outside, the bi-national NORAD agreement was reduced in importance, with some opining that it would be replaced with mission-specific bi-lateral agreements.<sup>15</sup> In addition, Canada's decision to forgo participation in the ballistic missile defensive shield, the future of NORAD as a

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<sup>13</sup> Ibid.

<sup>14</sup> MacDonald-Laurier Institute. "Canada Must Spend More on Defence or Cede Responsibility to the US." James Ferguson for Inside Policy. March 29, 2017. Accessed on 14 April 2018. <https://www.macdonaldlaurier.ca/north-american-defence-in-the-trudeau-trump-era-initial-thoughts-james-fergusson-for-inside-policy/>

<sup>15</sup> Fergusson, James. Canadian Defence and Foreign Affairs Institute. "Beneath the Radar: Change and Transformation in the Canada-U.S. North American Defence Relationship". Dec 2009. p.2. Accessed on 18 April 2018. [https://d3n8a8pro7vhm.cloudfront.net/cdfai/pages/41/attachments/original/1413661866/Beneath\\_the\\_Radar.pdf?1413661866](https://d3n8a8pro7vhm.cloudfront.net/cdfai/pages/41/attachments/original/1413661866/Beneath_the_Radar.pdf?1413661866)

bi-national defence agreement was in doubt.<sup>16</sup> With US Space Command and Strategic Command (STRATCOM) removed from NORAD as a result of these changes, many of the integrated Canada/US information sharing relationships were lost. This essentially resulted in the “downgrading of NORAD to a regional player,”<sup>17</sup> adopting a subordinate role to US NORTHCOM and STRATCOM in defending the US and North America.

The current security climate has seen the resurgence of Russia as a near-peer to the United States and with its strategic long-range bombers, ICBMs, and cruise missile capabilities, it poses a significant and credible threat to North America. Emerging threats, including cyber-attacks, proliferation of ballistic and cruise missile technology, and “the aggressive rhetoric and actions of China, Iran, North Korea, Russia, and other regimes worldwide, among other things,”<sup>18</sup> has increased the importance of the NORAD agreement. Significant improvements in technology have increased the threat as most modern cruise missiles can reach North America from other countries without the need for bombers or aircraft that can be intercepted.<sup>19</sup> NORAD’s mission of aerospace warning, aerospace control, and maritime warning are well-suited to providing the indications and warnings associated with the cruise missile threat from both Air-Launched Cruise Missiles (ALCMs) and Sea-Launched Cruise Missiles (SLCMs), and responding to these threats with the appropriate capabilities. “We are witnessing a shift from intra-state conflict and “war on terror” back to state-on-state great power politics and deterrence,”<sup>20</sup> which was the reason NORAD was founded. The ability to address these emerging

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<sup>16</sup> Ibid.

<sup>17</sup> Ibid.11.

<sup>18</sup> Canada. House of Commons. “Canada and the Defence of North America: NORAD and Aerial Readiness.” Report of the Standing Committee on National Defence. Sept 2016. 42nd Parliament, 1st Session. p. 5. <https://www.ourcommons.ca/Content/Committee/421/NDDN/Reports/RP8406082/nddnrp02/nddnrp02-e.pdf>

<sup>19</sup> Ibid.6.

<sup>20</sup> MacDonald-Laurier Institute. NORAD and the Evolution of North American Air Defence: Andrea Charron and James Ferguson for Inside Policy. May 24, 2017. Accessed on 13 April 2018.

threats and Canada's recent commitment to improving defence capabilities outlined in Strong, Secure, Engaged (SSE) will continue to highlight its commitment to the NORAD agreement and its importance in ensuring the defence of North America.

### **Strong, Secure, Engaged**

The Government of Canada's release of its new Defence Policy, Strong, Secure, Engaged has addressed the need for the Canadian Armed Forces (CAF) to be Strong at home, Secure in North America, and Engaged in the world. The policy stresses, "Secure in North America, active in a renewed defence partnership in NORAD and with the United States,"<sup>21</sup> implying a re-invigoration of investment in NORAD capabilities. The emphasis on stressing the Secure in North America as one of the important aspects of Canada's security highlights the importance of NORAD by clearly articulating Canada's commitment to collective defence of North America. Generally speaking, SSE makes a commitment to "improving Canada's capacity to meet NORAD commitments by improving aerospace and maritime domain awareness and response and enhancing satellite communications."<sup>22</sup>

When it comes to specific details surrounding the defence policy's commitment to capability enhancements that have a NORAD nexus, the document does highlight the purchase of 88 advanced fighter aircraft.<sup>23</sup> However, there is no mention whether these aircraft will be 4<sup>th</sup> or 5<sup>th</sup> generation, which will have an impact on their employability in the NORAD mission. While

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<https://www.macdonaldlaurier.ca/norad-and-the-evolution-of-north-american-defence-andrea-charron-and-james-fergusson-for-inside-policy/>

<sup>21</sup> Canada. Department of National Defence. *Strong, Secure, Engaged: Canada's Defence Policy*. Ottawa: Department of National Defence, 2017. p. 14.

<sup>22</sup> Canada. Department of National Defence. *Strong, Secure, Engaged: Canada's Defence Policy*. Ottawa: Department of National Defence, 2017. p. 61.

<sup>23</sup> Ibid.13.

newer 4<sup>th</sup> generation fighters are capable of detecting, tracking and destroying cruise missiles, they are not as capable as 5<sup>th</sup> generation, net-centric aircraft, which will have implications on interoperability with the USAF in the future.<sup>24</sup> In addition, there is a plan to re-capitalize the CC-150 air-to-air refueling tanker capability, which will have a significant impact on NORAD operations, allowing fighters to operate farther from operating bases.<sup>25</sup> With Canada's vast northern territories, airfields with the capability to provide fuel are few and far between so tankers are very important for maintaining sovereignty. Currently, the US provides alert tankers to support CF-188s when the Canadian tankers are unavailable. Finally, Canada identified a requirement to acquire space-based assets such as the enhanced RADARSAT Constellation for Northern surveillance, targeting, and command and control capabilities.<sup>26</sup> These capabilities will directly enhance Canada's contribution to NORAD.

There are also numerous examples of Canada's intention to acquire capabilities that will have add to the NORAD capability even though they are being pursued for different reasons such as our commitment to the North Atlantic Treaty Organization (NATO), the United Nations (UN), and our partnership in the Five-Eyes intelligence community. These include the 15 surface combatants that will have a direct role to play in maritime surveillance and warning and could be used in a maritime control capacity in the future should the NORAD mission be extended. While they are being purchased to fulfill multi-roles such as to meet our NATO commitments and for UN mission sets, they will provide direct utility in a NORAD mission.<sup>27</sup> Maritime patrol aircraft replacements and unmanned aerial systems could also be used to contribute to the aerospace

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<sup>24</sup> Based on discussions with other 1 AF A-staff planners who have been asked to create position papers on 5<sup>th</sup> generation aircraft in CONR. Specifics would require discussions at the SECRET REL FVEY level.

<sup>25</sup> Canada. Department of National Defence. *Strong, Secure, Engaged: Canada's Defence Policy*. Ottawa: Department of National Defence, 2017. p. 39.

<sup>26</sup> Ibid.

<sup>27</sup> Ibid.13.

warning mission set of NORAD.<sup>28</sup> An increase in manning for the intelligence community and new capabilities in cyber warfare will also augment Canada's contribution to NORAD as part of Canada's commitment to "act as a responsible, value-added partner with NORAD, NATO and Five-Eyes partners."<sup>29</sup>

While it is obvious that Canada's government values NORAD and has made it a priority with SSE, there are several areas that have caused some in the US defense department to express some concern. This new policy that was the culmination of a lot of work and consultation, including a detailed funding model is very similar to past Defence Policies, including the 2008 Canada First Defence Strategy, which did not live up to the funding that was promised. It looks and feels like a "business as usual" policy without an actual threat assessment factored into it.<sup>30</sup> The North Warning System modernization is mentioned several times, but there is no commitment of funding or timeline for its replacement.<sup>31</sup> Ballistic missile defence (BMD), while an important part of North American defence is only mentioned once and states that, "Canada's policy with respect to participation in ballistic missile defence has not changed."<sup>32</sup> Despite the emerging threats from countries like North Korea, Canada is unwilling to re-open talks on ballistic missile defence, but on the same page it discusses looking at emerging threats and working with the US to modernize NORAD. These issues highlight some US concerns with

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<sup>28</sup> Ibid.39.

<sup>29</sup> Ibid.14.

<sup>30</sup> MacDonald-Laurier Institute. Strong, Secure and Engaged – More of the Same?: Richard Cohen for Inside Policy. June 12, 2017. Accessed on 16 April 2018. <https://www.macdonaldlaurier.ca/strong-secure-and-engaged-more-of-the-same-richard-cohen-for-inside-policy/>

<sup>31</sup> Rodman, Lindsay. Canadian Defence and Foreign Affairs Institute. Strong, Secure, Engaged: Evaluating Canada as a Dependable Ally and Partner for the United States. November 2017. p. 8. Accessed on 20 April 2018. [https://d3n8a8pro7vhmx.cloudfront.net/cdfai/pages/3082/attachments/original/1512001686/Evaluating\\_Canada\\_as\\_a\\_Dependable\\_Ally\\_and\\_Partner\\_for\\_the\\_United\\_States.pdf?1512001686](https://d3n8a8pro7vhmx.cloudfront.net/cdfai/pages/3082/attachments/original/1512001686/Evaluating_Canada_as_a_Dependable_Ally_and_Partner_for_the_United_States.pdf?1512001686)

<sup>32</sup> Canada. Department of National Defence. *Strong, Secure, Engaged: Canada's Defence Policy*. Ottawa: Department of National Defence, 2017. p. 90.

regard to Canadian support to NORAD covered in SSE, but overall the reception has been positive and it is obvious that NORAD is an important part of Canada's security going forward.

### **Evolution of North American Defense (EvoNAD)**

The final argument for NORAD continuing as an important centerpiece of North America's future defense cooperation is the appointment by the PJBD of a Committee to study the evolution of North American defense. This initiative is being shared by NORAD, the Canadian Joint Operations Command, and NORTHCOM as a way to look at continental defense from multiple domains. Part of the responsibilities outlined in the EvoNAD charter is to develop White Papers on North American defense and to look at it from the perspective of six domains; Air, Maritime, Cyberspace, Space, Aerospace, and Land.<sup>33</sup> These chapters have been developed with the purpose of finding better ways of integrating C2, forces, and capabilities from the US and Canada in an effort to better meet emerging threats. Changes have included work towards the modernization of C2 structures, commitment of additional forces, and extension of the NORAD mission into one or more of the other domains, such as Cyberspace. As the capabilities inherent in cruise missiles continues to threaten North America, NORAD may even move away from a defensive only construct to something with a first-strike capability, significantly altering the existing paradigm.<sup>34</sup> The evolution of the bi-national defence agreement, could include a

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<sup>33</sup> EvoNAD Working Group Charter. 2017

<sup>34</sup> MacDonald-Laurier Institute. "NORAD and the Evolution of North American Air Defence." *Andrea Charron and James Ferguson for Inside Policy*. May 24, 2017. Accessed on 13 April 2018. <https://www.macdonaldlaurier.ca/norad-and-the-evolution-of-north-american-defence-andrea-charron-and-james-fergusson-for-inside-policy/>

complete integration of both countries' militaries to better defend North America against the increasingly high tech and capable threats that exist.

### **Conclusion – NORAD: An Important Player in the Defence of North America**

The NORAD enterprise has just celebrated 60 years of successfully defending North America against threats both internal and external and represents a unique bi-national collective defence arrangement. While it has undergone significant change throughout the years from posturing to intercept long-range bombers of the Soviet Union, to sitting alert for Operation Noble Eagle, NORAD has remained a relevant and important part of the US and Canada's security. After 9/11, the US turned their attention inward to protect against another potential terrorist attack, and with few potential enemies with the capability and the resolve to attack, NORAD seemed to be losing importance. However, with the continued increase in Russian capabilities, including long-range bombers, and significant increases in cruise missile technology, NORAD has once again become the cornerstone of defence for North America. With Canada's recent release of Strong, Secure, Engaged, and a renewed commitment in defence spending towards replacing and in some cases increasing capabilities, the importance of NORAD is no longer in doubt. The appointment by the PJBD of an EvoNAD working group to study potential areas for the evolution and modernization of NORAD is also promising as it speaks to the recognition that the bi-lateral defence agreement will always be at the centre of North American defence.

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