GOVERNMENT RESPONSE

GOVERNMENT RESPONSE TO THE REPORT OF THE STANDING COMMITTEE ON NATIONAL DEFENCE ENTITLED: *A SECURE AND SOVEREIGN ARCTIC*

Introduction

The Government of Canada has considered the report of the Standing Committee on National Defence and thanks its members for their study and recommendations.

The Government of Canada welcomes the recommendations made in this report. The majority of the Committee's recommendations align with work already being undertaken by the Government, as well as the Government's plan to modernize the North American Aerospace Defense Command (NORAD) announced in June 2022. Furthermore, while Canada's current defence policy *Strong, Secure, Engaged* (SSE) provides a solid foundation to enable the Canadian Armed Forces (CAF) to respond and adapt to an evolving threat environment, the Government will review and update this policy to ensure that it remains relevant for the years to come. As part of this work, the Government will continue to carefully consider the recommendations of the Committee laid out in this report.

Recommendation 1: That the Government of Canada immediately begin the process to procure undersea surveillance capabilities for Canadian Arctic waters in order to detect and monitor the presence of foreign threats to our national security.

The Government of Canada agrees with this recommendation.

Canada's 2017 defence policy, SSE, committed to further strengthening the CAF ability to monitor activity in the Arctic, including by integrating a range of new sea, land, air, and space capabilities into a 'system-of-systems' approach to Arctic surveillance. The 2019 whole-of-government *Arctic and Northern Policy Framework* (ANPF) further committed Canada to strengthening domain awareness, surveillance, and control capabilities in the Arctic and North. Subsequent mandate letters to the Minister of National Defence also directed the development of better surveillance capabilities to protect Canada's rights and sovereignty, and demonstrate international leadership with respect to the navigation of Arctic waters.

To fulfill these commitments, Canada has made important investments in its broader military maritime surveillance capabilities for the Arctic. Notably, the Canadian Multi-Mission Aircraft (CMMA) project will deliver an enhanced long-range, high-endurance, multi-mission capability to replace the CP-140 Aurora fleet. While early in the process, the CMMA will focus on anti-submarine warfare and anti-surface warfare, and be upgraded with Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) capability.

The Government is procuring six ice-capable Arctic and Offshore Patrol Ships (AOPS), which will allow the Royal Canadian Navy (RCN) to operate in previously inaccessible Arctic waters and contribute to enhanced domain awareness. Three of the AOPS are already in the water, with the other three anticipated to be delivered by 2025. The Royal Canadian Navy (RCN) is analyzing options to acquire specialized equipment for AOPS that will provide underwater detection and tracking capabilities and support the NORAD maritime warning mission. This includes enhanced sonars that enable surveillance of the ocean floor and real-time detection, tracking, and intelligence collection of submarines operating nearby. These capabilities would complement and expand upon existing anti-submarine warfare capabilities in the CAF.

The Government is making additional investments into space-based surveillance capabilities over Canada's territorial and maritime approaches, which will contribute to maritime domain awareness.

Furthermore, National Defence is looking at ways to improve Canada's ability to detect, track and respond to undersea threats in the Arctic, including by:

- Procuring technological prototypes for demonstrations;

- Assessing fixed and mobile undersea surveillance systems and supporting infrastructure that enable persistent surveillance over wider areas;
- Exploring new, non-traditional methods to augment traditional radar, acoustic or satellite-based remote sensing; and,
- Measuring and modeling activities to better understand and predict the impact of climate change on the effectiveness of undersea surveillance technologies in the Arctic maritime environment.

<u>Recommendation 2:</u> That the Government of Canada undertake on an urgent basis a procurement process to replace the Victoria-class submarines with new submarines that are under-ice capable for operations in our Arctic waters.

The Government of Canada takes note of this recommendation.

The Government is in the process of modernizing the Victoria-class submarines to ensure continued operations into the 2030s. In addition to making Canada and its allies stronger and safer, the Victoria-class Modernization Project will benefit Canadian industrial and technological sectors, and provide robust economic benefits for Canada. Additionally, National Defence established the Canadian Patrol Submarine Project (CPSP) to examine all options capable of meeting RCN requirements in order to inform timely government decision-making about a potential replacement class of submarines.

<u>Recommendation 3:</u> That the Government of Canada reconsider its longstanding policy with respect to the U.S. Ballistic Missile Defence program.

The Government of Canada takes note of this recommendation.

Although Canada has not changed its position on participating in the U.S. Ground Based Mid-Course Ballistic Missile Defense program, the Government recognizes the importance of adopting an integrated approach to air and missile defence. Canada's adversaries are rapidly developing a broad range of air and missile capabilities with technological advances that make the distinction between ballistic and other types of missile threats increasingly irrelevant. To address the increasingly complex missile threat, many of Canada's allies and partners are moving towards adopting Integrated Air and Missile Defence (IAMD), which aims to remove gaps that exist between different types of air and missile defence systems, and optimizes the overall defensive architecture to meet the full range of threats. Therefore, militaries increasingly rely on integrated multi-purpose and multi-domain systems-of-systems to detect, track, identify, and ultimately engage the full range of missiles, blurring the line between missile types, and between detection and defence.

Canada is committed to working with the U.S., through NORAD, to modernize North America's defensive architecture so that we can face modern threats. Many of Canada's investments in NORAD modernization will significantly increase our ability to deter, detect, and address rapidly evolving air and missile threats to North America, including those posed by advanced cruise and other high-speed missiles. For example, as outlined in the June 2022 NORAD modernization announcement, National Defence is:

- Investing in Over the Horizon Radar (OTHR), layered with space-based surveillance, to ensure Canada and NORAD can detect and track modern threats;
- Modernizing command and control systems to enable senior leaders to make faster decisions that are more timely and effective in order to maximize deterrence and defence options;
- Acquiring additional short- and medium-range and new long-range air-to-air missiles;
- Enhancing existing and building new infrastructure to enable new F-35 fighter jets, and to support more robust air operations in the North; and,
- Pursuing ongoing research and development to better understand emerging and disruptive technologies such as artificial intelligence, hypersonics, and advanced cruise

missiles, alternative energy, and cyber, while also enabling Canada to develop counter capabilities against emerging and disruptive technologies.

<u>Recommendation 4:</u> That the Government of Canada urgently address the personnel crisis in the Canadian Armed Forces by fast-tracking the recruitment of new members, aiming to complete the recruitment process in under six months to ensure we have the level of personnel needed to defend our Arctic now and into the future.

The Government of Canada agrees in principle with this recommendation. While DND/CAF is working to modernize its recruitment system to reduce processing timelines, files can significantly vary in complexity which can result in delays outside of DND/CAF's control that could result in timelines exceeding six months.

National Defence recognizes that the current CAF recruitment process is challenged by inefficient processes and outdated systems that are contributing to delays. Therefore, National Defence is implementing three lines of effort to help modernize its recruitment process: (1) digitize the recruitment process to streamline and automate existing processes; (2) redesign the recruiting processes with an initial focus on the medical screening process to ensure the administrative sequencing of its members is correct and efficient; and (3) enhance CAF branding and conduct targeted advertising, marketing, and attraction activities in partnership with senior leadership across the Defence Team to convey to Canadians the value of a career in the CAF.

While National Defence is still in the early stages of modernizing the recruiting system, some progress has been made. For example, in April 2023, National Defence released its general awareness campaign entitled, 'This Is For You' to attract the next generation of Canada's military. In addition, the RCN is experimenting with new recruiting initiatives with the development of the Naval Experience Program (NEP). The NEP was developed as a one-year program to expose participants to life in the RCN and to help them determine whether a career in the Navy is the right fit for them. During this one-year program, participants complete basic training and learn the roles of being a sailor by shadowing a variety of jobs, gaining exposure to several naval trades while receiving the same compensation and benefits entitled to all CAF members. After completion of the program, participants can release from the CAF or join for a longer period. After the first cohort finishes the program, the CAF will assess the data to help inform future recruiting policies and initiatives. In this context, National Defence will continue to prioritize efforts to streamline recruitment.

<u>Recommendation 5:</u> That the Government of Canada undertake a comprehensive survey of our infrastructure, including military, civilian, and corporate holdings, as well as natural resources, mining and mineral operations in our Arctic for the purpose of forward planning for NORAD modernization, developing a strategy for critical infrastructure investments and protecting Canadian interests from malign foreign actors.

The Government of Canada agrees with this recommendation.

The Government is committed to protecting Canada's military and non-military critical infrastructure, such as pipelines, electricity grids, transportation networks, and financial systems. *Canada's National Strategy* and *National Cross Sector Forum 2021-2023 Action Plan for Critical Infrastructure* set out an all-hazards risk management approach to strengthening the resilience of Canada's critical infrastructure by continuously working with the critical infrastructure community. These initiatives take into account natural, accidental, and intentional threats that could affect Canada's vital assets and systems. For example, since the release of the Strategy in 2021, Public Safety Canada has achieved considerable progress to better protect our critical infrastructure from malign foreign actors by developing partnerships, sharing information, conducting physical and cyber exercises, and implementing resilience and impact assessment programs.

National Defence conducts regular surveys of its infrastructure to assess building condition and asset suitability. This information is taken into account in the development of real property and

site development plans, which inform future military requirements to support operations and future investment decisions. As part of the June 2022 announcement on NORAD modernization, which is supported by an investment of $38.6 billion over 20 years, the Government of Canada will invest in infrastructure and support capabilities to ensure the CAF can launch and sustain a strong military presence across the country, including in the North and the Arctic. This investment includes upgrades at four northern locations used by NORAD –the Forward Operating Locations in Iqaluit, Inuvik and Yellowknife, and at 5 Wing Goose Bay– and to fighter jet infrastructure across the country. National Defence also continues to routinely consider assets that are critical to military activities in the Arctic and across Canada as part of contingency and forward planning for the defence of North America. National Defence is conducting ongoing engagements with provincial, territorial, other federal government departments and Indigenous governments and organizations throughout the implementation of NORAD modernization to ensure alignment and cooperation with other levels of government, as well as to ensure that Indigenous knowledge and expertise is considered; that potential benefits for local communities from future CAF and other federal departments' infrastructure upgrades and improvements are identified; and that work is undertaken with partners to identify opportunities for Indigenous businesses.

For its part, Natural Resources Canada conducts extensive geological surveys and provides geospatial information for resource and industry development in the Arctic. Notably:

- By improving network coverage of Global Navigation Satellite System (GNSS), providing positioning, navigation, and timing information for essential services and geoscience applications, through the Space-Based Earth Observation Fund. These improvements will support services such as survey efficiency, autonomous vehicle positioning (in partnership with Transport Canada), and meteorological and climate modelling (in partnership with Environment and Climate Change Canada);
- By advancing geoscientific knowledge about Canada's Northern lands, through the GEM-GeoNorth, Targeted Geoscience, and Critical Minerals Geoscience and Data Initiatives. These initiatives inform decisions related to mineral development, climate-resilience, infrastructure challenges and sustainable land use planning; and,
- By contributing scientific expertise to the Impact Assessment process for proposed major infrastructure projects in the Arctic, and the fulfilment of Canada's obligations to international agreements associated to the Arctic.

Likewise, as an investigative body under the *Investment Canada Act* (ICA), Natural Resources Canada contributes to national security reviews of foreign investments, including in the mining sector, which can affect Arctic security. The reviews assess mining assets, such as deposits, operations, processing facilities, and related infrastructure deemed strategically important due to their economic significance, potential impact on supply chains, or their role in supporting critical industries.

Canada has also adopted measures to protect Canadian critical mineral assets from malign foreign actors. On October 28, 2022, the Minister of Innovation, Science and Industry announced a new policy under the ICA on foreign investments in critical minerals. The policy states that there are reasonable grounds to believe that investments into Canadian critical minerals companies by state-owned or influenced enterprises could be injurious to Canada's national security, and that these investments will only be found to be of likely net benefit to Canada on an exceptional basis.

Canada's Critical Minerals Strategy includes commitments for the Government of Canada to further strengthen supply chain security, through:

- Ensuring that Canada's foreign investment review regime is positioned to respond to an evolving threat landscape;
- Working with allies to align policies and promote common standards; and,
- Examining additional measures to improve critical mineral supply chain security in consultation with relevant parties.

Furthermore, Canada's Northern and Arctic regions are home to 16 of the 31 minerals or groups of minerals listed on Canada's Critical Minerals list. Canada's geography and underdeveloped land-based infrastructure across Northern regions create logistical challenges for industrial development and access to domestic and international markets. Critical mineral deposits are often located in remote areas with challenging terrain and limited access to enabling infrastructure, such as roads or grid connectivity, which impacts their development and competitiveness. To address this, Budget 2022 included a provision of up to $1.5 billion for infrastructure development for critical mineral supply chains, with a focus on priority deposits. In addition, the Canada Infrastructure Bank (CIB) announced its plan to invest in critical minerals enabling infrastructure and will target investments of at least $100 million. These investments will facilitate the construction of enabling and supporting infrastructure, such as access roads, clean power generation and transmission along with wastewater management facilities in remote areas of Canada. Enhancing Canada's transportation and energy infrastructure in Northern and remote regions represents a strategic opportunity to support broader economic growth objectives, Canada's Arctic sovereignty and national security, and reconciliation with Indigenous peoples.

<u>Recommendation 6:</u> That the Government of Canada invest in the technological training necessary for the Canadian Armed Forces to defend against future threats from new and emerging technologies already in use, and being developed, by our adversaries.

The Government of Canada agrees with this recommendation.

The Government agrees that the CAF needs to be equipped to defend against threats from emerging and disruptive technologies (EDTs). Advances in applications of artificial intelligence, autonomy and counter autonomy, space systems, quantum technologies, and biotechnology, among others, will have a significant impact on the way nation states pursue their interests and project military power in the Arctic. Advances in technology are being exploited by our adversaries. To remain effective and interoperable with our partners, the CAF must keep pace with emerging science and technology, and enhance its capabilities. To this end, DND holds annual workshops on EDTs to assess their implications on the CAF and provides training related to countering emerging threats. For example, the CAF has developed several space domain training initiatives to help better understand threat actor tactics, techniques, and procedures, as well as to ensure that Canada is capable of countering emerging threats in this challenging environment. Additionally, there are several cyber security courses offered through the Royal Military College of Canada that provide DND/CAF and other government department attendees enhanced awareness of cyber threats and knowledge to counter malicious activity.

The CAF continually reviews its professional training courses to ensure that operators can exploit the full range of technical capabilities offered by equipment enhancements designed to counter threats from adversaries. The CAF also incorporates emerging threats into exercise environments, which allows for learning through practical experience.

Part of defending against future threats from EDTs is limiting the ability of potentially hostile nations to acquire them. With this in mind, DND/CAF actively participates in assessing threats that may arise from either foreign direct investments or exports under authorities granted by the *Investment Canada Act* and *Export and Import Permit Act*.

The cyber domain also plays an increasingly important role in the future of EDTs relying on digital systems. DND is conducting several research and development activities aimed at ensuring that CAF systems are protected from cyber threats. Additionally, the CAF now has a dedicated Cyber Operator occupation. The first class of Cyber Operators graduated from the Canadian Forces School of Communications and Electronics in September 2021 and have begun work as Cyber Defence Analysts.

<u>Recommendation 7:</u> That the Government of Canada table in the House of Commons the timelines for the enhancement of our Forward Operating Locations in the Arctic, including when they will be able to accommodate the F-35 fighter jet.

The Government of Canada does not agree with the recommendation as this information is available on a public website.

Under the Defence of Canada Fighter Infrastructure project, the Government will upgrade infrastructure at the Canadian Armed Forces' Quick Reaction Alert areas across Canada, including four northern operating locations, to support the arrival of the F-35 fleet. These will be complemented by broader upgrades through a separate Northern Basing project that will see further upgrades in Inuvik, Yellowknife, Iqaluit and Goose Bay. While the Government anticipates completing these improvements in 2032, National Defence maintains a publicly-accessible web page (https://www.canada.ca/en/department-national-defence/services/operations/allies-partners/norad/norad-modernization-projct-timelines.html) with up-to-date project timelines for NORAD modernization.

<u>Recommendation 8:</u> That the Government of Canada prolong the operating season of the Nanisivik naval station in order to expand the availability of critical infrastructure in our High Arctic.

The Government of Canada does not agree with the recommendation.

At this time, the RCN does not intend to prolong the operating season of the Nanisivik Naval Facility (NNF) beyond the navigable season. Prolonging the operating season would require ice-breaking to occur, which would not be efficient due to the costs associated with a potential prolongation and the relatively small operational gains, given the small number of ships utilizing the facilities during the winter months. More importantly, there would be an impact on the fundamental patterns of life of the local population who routinely transit across the frozen ice to traditional hunting grounds. The RCN and the Government of Nunavut have already agreed not to break ice near the facility to protect community access to frozen waters and protect wildlife. Therefore, access is currently restricted to the RCN's operational season, which is typically between four and six weeks.

<u>Recommendation 9:</u> That the Government of Canada immediately begin the procurement process to select a new strategic air-to-air refueling capability that can operate in the Arctic.

The Government of Canada agrees with the recommendation.

As announced in July 2023, important progress has been made on the air-to-air refuelling/Strategic Tanker Transport Capability (STTC) project, which the Government announced as part of SSE and NORAD modernization in 2017 and 2022, respectively. Canada has awarded a contract to Airbus Defence and Space S.A. to replace the RCAF's CC-150 Polaris fleet. Once delivered, these Multi-Role Tanker Transport (MRTT) aircraft will be designated as the CC-330 Husky and will improve the RCAF's flexibility to defend Canadians, meet Canada's NORAD and NATO commitments, as well as to support operations and training activities in Canada, including the Arctic. Therefore, this new MRTT fleet of nine aircraft will enhance the RCAF's ability to transport Canadian troops and refuel jets in the Arctic, as well as to deliver specialized aeromedical evacuation in the region. The first two aircraft will be in service in the fall of 2023 in a utility transport and medevac role. The Government anticipates achieving full operational capability in 2031.

<u>Recommendation 10:</u> That the Government of Canada takes steps to increase the availability of hangarage use in the Arctic, especially in Iqaluit and Inuvik, to ensure that infrastructure remains available into the future.

The Government of Canada agrees with the recommendation.

As part of the Government's NORAD modernization plan, the Northern Basing Infrastructure

project will significantly upgrade the infrastructure of four northern operating locations, including Iqaluit and Inuvik. Infrastructure development by the federal government must maximize opportunities for shared space across partners at all levels where possible, including local Indigenous groups, in alignment with the Minister's mandate letter of 2021 and the Minister's NORAD modernization announcement from June 2022. As such, Northern Basing Infrastructure focuses on multi-purpose facilities that will be available to support various airframes when required, as well as facilitate training and provide quarters. The main focus is to ensure the best use of CAF infrastructure in the North, while facilitating the operational requirements of DND/CAF and NORAD.

Availability of hangar space in the Arctic has been recognized as a concern for some time. National Defence has started the site development process for increasing hangar space and enhancing other infrastructure.

To ensure that new infrastructure fulfills the needs of the CAF and maximizes broader benefits for Canadians, the Government will deliver these initiatives while working closely with Northern provinces, territories, and Indigenous governments and communities.

Recommendation 11: That the Government of Canada initiate the replacement of all outdated aircraft used for surveillance and search and rescue in the Arctic, including the Auroras, Twin Otters and Cormorants.

The Government of Canada partially agrees with the recommendation.

The Government is committed to ensuring the CAF have the right equipment to operate in the North and the Arctic, and provide continued support to civilian authorities for emergency response. The Government will replace its CP-140 Aurora and CC-138 Twin Otter fleets, and upgrade the CH-149 Cormorant fleet. A replacement for the CH-149 Cormorant fleet is not required at this time.

Specifically, the Government will replace the RCAF current fleet of four CC-138 Twin Otter through the Utility Transport Aircraft project. This project will support the CAF's mandate to provide utility airlift of personnel and equipment throughout the Arctic. The aircraft will be capable of operating in extreme weather conditions from unpaved airfields to austere locations with limited or no support facilities. This project is currently in the options analysis stage for the replacement of the CC-138 and National Defence is evaluating the life expectancy of the current fleet to continue to maintain this capacity.

As elaborated upon above, the CMMA project will deliver an enhanced long-range, high-endurance, multi-mission capability to replace the CP-140 Aurora fleet by focusing on anti-submarine warfare and anti-surface warfare, and upgrades with C4ISR capability. Canada is currently evaluating the United States Government's P-8A Poseidon sales proposal, as Canada continues to assess options for the CMMA project.

In addition, the Government of Canada has launched the Cormorant Mid-Life Upgrade (CMLU) project to extend the operational life of the CH-149 aircraft to at least 2042. This project will enhance SAR missions by meeting the latest regulatory requirements for aviation, and adding a new sensor suite. In addition, the project will enable the return of the Cormorant to four Main Operating Bases (MOBs) within Canada to bolster SAR capacity, and include training simulators as part of the program. The Government anticipates achieving initial operational capability in 2027 and full operational capability in 2033.

Recommendation 12: That the Government of Canada proactively engage with our American allies to formulate a plan to intensify the speed with which our NORAD modernization progresses and to meet new air-based and missile threats.

The Government of Canada agrees with the recommendation.

National Defence continues to work closely with the U.S. Department of Defense on the

implementation of NORAD modernization initiatives to ensure that our respective national investments are well aligned and that the resulting new capabilities can be fielded as quickly as possible to reflect rapid changes in the strategic environment, including new air and missile threats to North America. This aligns with the Joint Statement on NORAD modernization announced by the Minister of National Defence and U.S. Secretary of Defense in August 2021, and the statement made by Prime Minister Trudeau and President Biden during the President's visit to Ottawa in March 2023.

Since the Minister of National Defence's June 2022 announcement of Canada's plan to modernize NORAD, National Defence has been working to establish and integrate NORAD modernization projects into the broader Defence program, move out on early priorities in the 20-year plan, and lay the groundwork for deeper partner and stakeholder engagement on the full suite of initiatives over the coming months and years. To deliver on this suite of investments in a timely manner and support effective implementation, National Defence is working as quickly as possible to establish new program offices and to strengthen its internal services capacity.

National Defence is taking a phased approach to NORAD modernization. This approach is based on lessons learned from the implementation of Canada's 2017 defence policy SSE and will support timely and effective implementation. Several projects will reach IOC by the late 2020s, while others should reach IOC by the mid-2030s.

These internal initiatives complement ongoing efforts to deepen planning and collaboration with the U.S., including through a renewed partnership between the RCAF and the United States Air Force (USAF).

In the March 2023 joint statement with President Biden, Prime Minister Trudeau announced that Canada's Arctic Over the Horizon Radar (OTHR) will be fielded in Southern Ontario and be online by 2028. This illustrates Canada's intent to align project timelines closely with the U.S., and field our Arctic OTHR systems as quickly as possible. Arctic OTHR will be part of an interoperable, next-generation surveillance system for North America. Canada is working closely with the U.S. to ensure our respective investments in OTHR provide maximum strategic impact for the defence of our shared continent, including providing coordinated early warning of the approaches to North America.

Canada is also working diligently with the U.S. to support rapid prototyping in support of Cloud-Based Command and Control (CBC2), which will deliver a modernized binational command and control system for NORAD that leverages artificial intelligence and cloud computing.

National Defence maintains a publicly-accessible web page with up-to-date project timelines for NORAD modernization (https://www.canada.ca/en/department-national-defence/services/operations/allies-partners/norad/norad-modernization-projct-timelines.html)

Recommendation 13: That the Government of Canada, when and where possible, in collaboration with territorial and Indigenous governments, as well as Indigenous development corporations, ensure that military infrastructure in our Arctic include dual-use benefits to close the infrastructure deficit in Arctic communities.

The Government of Canada agrees with the recommendation.

National Defence continues to engage with Northern, provincial, territorial, and Indigenous governments and organizations, including through the ANPF, to build relationships, learn about their priorities, and identify opportunities to leverage defence investments to create economic opportunities and multi-purpose infrastructure, where possible. Notably, National Defence has co-developed a work plan with Inuit leaders through the Inuit-Crown Partnership Committee (ICPC) as part of the ICPC's new Sovereignty, Defence and Security priority area. One objective in the work plan is to see where National Defence's infrastructure requirements can align with an Inuit-specific infrastructure needs assessment.

National Defence is working to ensure that it delivers national defence capabilities that are relevant to, and inclusive of, all Canadians, and underpinned by meaningful dialogue with Arctic and Northern partners, such as Indigenous communities and Territorial/Provincial governments. Engagements with all Northern and Arctic partners will continue over the long term, and become more project-specific as NORAD modernization implementation progresses. Likewise, as part of the *United Nations Declaration on the Rights of Indigenous Peoples Act* (UNDA) Action Plan, National Defence and Inuit partners have co-developed an action plan to examine the feasibility of supporting multi-purpose infrastructure that can benefit Inuit communities.

<u>Recommendation 14:</u> That the Government of Canada increase the presence of the Royal Canadian Air Force and Royal Canadian Navy in the Arctic and ensure the necessary infrastructure and resources are in place to support additional Canadian Armed Forces assets.

The Government of Canada agrees with the recommendation.

As part of its plan to modernize NORAD, which is supported by an investment of $38.6 billion over 20 years, the Government of Canada will invest in infrastructure and support capabilities to launch and sustain a strong military presence across the country to support CAF missions, particularly in the North and the Arctic.

Specifically, the Government will upgrade infrastructure at the CAF operating locations in Inuvik, Yellowknife, Iqaluit, and Goose Bay, as well as improve fighter infrastructure and NORAD Quick Reaction Alert[1] (QRA) capabilities at several operating bases across Canada, including supporting the arrival of the F-35 fleet. Notably, new investments in the Northern Basing infrastructure project will increase the RCAF's ability to operate in the Arctic more frequently and for longer periods of time due to increased capability to support and sustain a multitude of aircraft types performing CAF missions.

Furthermore, the STTC project (air-to-air refueling), paired with the new F-35 fleet and Defence of Canada Fighter Infrastructure project, will provide the RCAF with a greater ability to conduct operations at the far reaches of the Canadian Arctic.

Additionally, new capabilities will allow the CAF to increase its situational awareness in the Arctic and respond, when necessary, with a variety of CAF capabilities. These include the Arctic and Polar Over the Horizon Radars, which will provide long-range surveillance of our northern approaches; Remotely Piloted Aircraft System, which will increase the persistence of airborne intelligence, surveillance, and reconnaissance and provide timely operationally relevant information; and Defence Enhanced Surveillance from Space, which will modernize the CAF's space capabilities, and improve situational awareness and identification of threats, including in the Arctic.

Similarly, upgrades to the CAF's command, control, and communications capabilities and systems will support more robust and agile operations throughout Canada and North America. These include upgrades to NORAD and CAF command and control systems, radio and air navigation upgrades, satellite communications, line-of-sight communications in the Arctic, air operations, and air weapons control coverage.

In addition, as committed to in Canada's 2017 defence policy SSE, which recognized the evolving Arctic security environment and the need to enhance the CAF's presence in the region, the Government of Canada is investing in 15 Canadian Surface Combatant ships and acquiring six AOPS. Notably, three of the AOPS are already in the water, and the remainder are scheduled to be delivered to the RCN by 2025. These will allow the RCN to have unescorted access to areas of the Arctic that were previously inaccessible. The intent is to have annual presence by multiple AOPS in Canada's Arctic waters during the navigable season. Additionally, while limited to ice-free waters due to lack of icebreaking capability, Kingston-class Maritime Coastal Defence Vessels (MCDVs) and Halifax-class frigates will continue to partake in Operation NANOOK,

[1] The Quick Reaction Alert is a state of readiness.

Canada's signature northern operation, along with the AOPS in the eastern approaches to the Canadian Arctic between Baffin Island and Greenland.

<u>Recommendation 15:</u> That the Government of Canada increase the presence of the Canadian Armed Forces Reserve in all three of Canada's Territories in order to assert Canadian security and sovereignty at the extremities of our territory.

The Government of Canada disagrees with the recommendation given that, while the CAF maintains a durable presence in the Arctic, there are currently no plans to increase the number of CAF Reserves in the region.

The ANPF reiterated that Canada's Arctic and Northern communities are at the heart of security in the region and committed the Government of Canada to work with partners at all levels to improve the CAF's ability to operate in the North.

However, Northern communities in Canada's territories do not have a population density, military personnel, nor the infrastructure required to support additional Reserve units. Locations require a critical mass of interested applicants to join the Primary Reserve in order to establish a reserve unit. The 1st Canadian Ranger Patrol Group does maintain a presence in the territories.

National Defence does not currently plan to increase the presence of CAF Reserve in the Arctic. While the CAF currently has an episodic reservist presence in the Arctic to conduct training, increasing the number of CAF Reserves in the region would require significant investments due to the insufficient number of available individuals that could join the Reserve in remote locations, as well as the vastness of the region and insufficient infrastructure.

<u>Recommendation 16:</u> That the Government of Canada, in consultation with Northern and Indigenous communities as well as Indigenous leaders, rapidly increase the pace of development and deployment of clean and renewable energy sources, including possibly Small Modular Nuclear Reactors for the Canadian Arctic in order to provide the clean energy necessary to support NORAD modernization and to stabilize local energy infrastructure needs.

The Government of Canada partially agrees with the recommendation.

The Government is committed to advancing reconciliation and renewing its relationship with Indigenous People by the acknowledgement of modern treaties and land claims, and upholding Indigenous rights. In addition, National Defence is committed to engaging with First Nation, Métis and Inuit groups to ensure science and technology (S&T) is informed by Indigenous Knowledge Systems, where possible.

National Defence is engaged in several S&T activities to identify alternative power and energy dual-use technologies, including possibly renewable energy technologies and strategies to reduce greenhouse gas while maintaining operational readiness for its operations and assets in the Arctic. National Defence is also undertaking research on extending the reliability and applicability of solar and wind energy to support conventional surveillance equipment in remote locations lacking infrastructure.

In addition, National Defence has launched several greening-focused calls for proposals to industry and academia focusing on, or considering the Canadian Arctic. For example, National Defence is seeking innovative approaches to building stronger wind turbines for the Arctic to reduce reliance on power that is generated by fossil fuels. National Defence is also looking at proposed solutions that provide integrated energy, water and waste management systems for the CAF's temporary camps deployed in national and international operations, including in extreme weather areas like the Arctic.

Though still in the early stages, National Defence will inform government decision-making regarding Small Modular Nuclear Reactors and micro-reactors for the Canadian Arctic.

<u>Recommendation 17:</u> That the Government of Canada work with Indigenous-led corporations for the provision of subsea fiber optic and other information technology infrastructure projects to provide increased and affordable Internet coverage across the Arctic.

The Government of Canada agrees with the recommendation.

The Government of Canada is making significant investments and remains committed to working with all its Northern partners, including Indigenous communities, to ensure that information technology infrastructure is optimized for economic growth, education, health care, and public safety.

Since 2016, the Government has announced over $355 million to support infrastructure projects that expand the availability of high-speed internet and cellular services across the North to provide more affordable and improved internet coverage in the North, including the Arctic. This includes over $150 million for the Government of Nunavut's Kittattuq Fibre Link Project which will connect Iqaluit to Milton, Newfoundland, via an undersea fibre optic cable. As a result of federal investments, the availability of high-speed Internet in the North will increase from 49% in 2015 to over 70% in 2026, and reach 100% by 2030.

<u>Recommendation 18:</u> That the Government of Canada strengthen the review process for the sale of Canadian companies operating in the Arctic to entities owned by or controlled by, in whole or in part, foreign state-owned governments.

The Government of Canada agrees in principle with the recommendation.

Under the *Investment Canada Act* (ICA), the Government currently has broad discretion to review the acquisition of Canadian companies operating in the Arctic by foreign investors, including state-owned enterprises. All investments, regardless of the value of the transaction, are subject to review for national security concerns while significant acquisitions of control of Canadian businesses are subject to a review for the likely net benefit to Canada's economy. The investment has to reach certain monetary thresholds in order for a net benefit review to apply.

During the net benefit analysis, the Minister of Innovation, Science and Industry looks at six economic factors in section 20 of the ICA. This includes the effect of the investment on the nature of economic activity in Canada and the compatibility of the investment with national industrial, economic, and cultural policies. Based on these factors, the Minister can block the investment if they are not satisfied that the investment would be of net benefit to Canada. Alternatively, the Minister can accept binding undertakings from investors to ensure that the investment is beneficial to Canada.

As for the national security review process, the Government examines each investment on a case-by-case basis to verify the merits of each investment. This process is a thorough analysis involving several departments and agencies, like the Department of National Defence and Public Safety Canada, to ensure the protection of Canada's national security. A non-exhaustive list of factors used to assess national security injury risks is published in the *Guidelines on the National Security Review of Investments*. The Guidelines specifically include the potential impact of the investment on the supply of critical goods and services to Canadians. Such investments may be blocked and ordered to divest, or permitted with certain terms or conditions. For example, in 2020, the Government blocked the acquisition of a gold mine in Hope Bay, Nunavut by a Chinese state owned enterprise.

At the same time, in efforts to strengthen our capacity to protect Canada's national security and intellectual property, the Government introduced in December 2022 Bill C-34, *an Act to amend the Investment Canada Act*. This bill seeks to modernize the national security review process of the ICA to strike the correct balance in supporting a welcoming climate for beneficial inbound foreign investments while protecting Canada's national and economic security interests.

<u>Recommendation 19:</u> That the Government of Canada proactively ensure that no software or hardware devices used in the upgrade of NORAD infrastructure is developed by or procured from adversarial nations.

The Government of Canada agrees with the recommendation.

Our adversaries are developing capabilities in an effort to exploit vulnerabilities in the DND/CAF command, control, communications, computers, intelligence, surveillance, and reconnaissance systems. To protect supply chains critical to Canada's defence, the Government is actively engaged in ensuring that no untrusted equipment, software, or services are used in the delivery and support of Government of Canada services. Specifically, the Canadian Center for Cyber Security's Supply Chain Integrity program performs comprehensive assessments on the information communication technology products and services used in Government of Canada infrastructure. The aim of the program is to foster resilience against digital supply chain vulnerabilities and potential compromise. In the event that a risk to national security is identified, National Security Exceptions can be leveraged, on a case by cases basis, to ensure that our adversaries are not involved in the procurement process.

Likewise, the DND/CAF Security Program and Cyber Mission Assurance Program ensure that risks to military infrastructure, including network assets such as software and hardware, are identified and mitigated before their operational use. As part of these programs, critical software and hardware used to upgrade and modernize NORAD infrastructure are assessed to meet DND/CAF resilience objectives as well as communications, intelligence, and information technology security standards, which are aligned with our allies and partners.

To further strengthen the resilience of defence industry supply chains, the Government, including DND/CAF, is developing the Canadian Program for Cyber Certification (CP-CSC) that will introduce mandatory cyber security requirements for select federal defence contracts by the winter of 2024. This initiative will not only increase the industrial cyber security baseline, thereby protecting Canadian economic and national security interests, but it will also help Canadian defence companies to qualify and compete for U.S. Department of Defense contracts, which is essential to the health of the industry in Canada.

<u>Recommendation 20:</u> That the Government of Canada fast-track the renewal of its space-based surveillance system; namely, the RADARSAT Constellation Mission launched in 2019.

The Government of Canada agrees with the recommendation.

The RADARSAT Constellation Mission (RCM) is critical to the Government's efforts to maintain domain awareness across the Arctic, helping to ensure its security and assert its sovereignty. RCM is the only satellite system in orbit that can offer daily monitoring of Canada's Arctic, providing the Government of Canada with a comprehensive picture of the region's threat environment. National Defence and other Government of Canada departments, including the Department of Fisheries and Oceans (Canadian Coast Guard) and Environment and Climate Change Canada, use this information to respond appropriately to issues that threaten the country's security, safety, environment, and economy. For example, RCM is vital to monitoring ship traffic in Canada's Arctic, which has tripled in the past two decades, and will continue to grow as a warming climate renders Northern passages ice-free for longer periods of the year. Maintaining full awareness of shipping activities is key to being able to respond to safety and security incidents.

The ability to comprehensively monitor the Arctic is crucial to Canada and its allies. Canada's 2017 defence policy, SSE, asserted specifically that DND/CAF will acquire Earth Observation capabilities to improve situational awareness and targeting, including the follow on to the current RCM system to improve the identification of threats and to improve situational awareness of routine traffic in and through Canadian territory. To meet this objective, National Defence has initiated the Defence Enhanced Surveillance from Space Project. This project will also strengthen the CAF's space-based surveillance capabilities, including of Canadian territory

and maritime approaches, by 2036.

<u>Recommendation 21:</u> That the Government of Canada immediately increase the Equipment Usage Rate for the Canadian Rangers. Thereafter, the Government should increase the rate annually in accordance with changes in the country's inflation rate.

The Government of Canada partially agrees with the recommendation.

The CAF makes every effort to ensure a Canadian Ranger who uses their personal vehicles, such a snowmobiles, and other equipment in support of approved CAF activities is not disadvantaged by doing so. The use of personal equipment by Canadian Rangers has been determined to be the most effective method of having our valued members in the field. Canadian Rangers use their own vehicles or equipment because acquiring such items through the local economy or issued through the Canadian Forces Supply System would present significantly greater cost and sustainment challenges. Thus, the Canadian Rangers' willingness to provide their personal equipment and be adequately reimbursed for such use has proven itself to be a simpler, more efficient and effective means to ensure the Canadian Rangers remain relevant and can continue to contribute to CAF domestic operations and sovereignty activities, as well as support local, regional and Indigenous civil authorities.

In June 2023, the Government of Canada reviewed its policy on the compensation for usage of personally owned equipment by Canadian Rangers. Rangers who must use their personally owned equipment to perform Canadian Armed Forces duties at isolated locations are reimbursed for wear-and-tear expenses. The revised rates resulted in an increase in the compensation received.

The CAF also amended the compensation and benefits instructions to ensure that those Canadian Rangers in isolation posts are fairly compensated.

Discussions on the adequate frequency of reviewing and adjusting rates, and on how best to ensure that these rates are sufficient, are ongoing. At this time, there is no intent to increase the rate in accordance with changes in inflation.

<u>Recommendation 22:</u> That the Government of Canada enhance professional development opportunities for the Canadian Rangers, including through increased operational experiences and emergency response training. To support an increase in the number of such opportunities, the Government should provide the 1st Canadian Ranger Patrol Group with additional administrative resources.

The Government of Canada partially agrees with the recommendation.

As part of Canada's 2017 defence policy SSE, the Canadian Army will conduct a comprehensive review of the Canadian Rangers Corps with the objective of expanding the training and effectiveness of the Canadian Rangers and improving their functional capability within the CAF. This review will focus on the role, mission, tasks, command and control, geographic laydown, staffing and administrative frameworks of the Canadian Rangers and, as required, update the policies, processes and mechanisms that govern personnel and the provision of equipment necessary for the Canadian Rangers to execute their missions. Decisions on administrative resources will be made after the review is complete.

The Canadian Army is also facilitating increased participation of Canadian Rangers in collective training opportunities to enable knowledge and experience sharing amongst the Canadian Rangers with their Regular and Reserve Force counterparts.

<u>Recommendation 23:</u> That the Government of Canada establish, through the National Search and Rescue Secretariat, a permanent Arctic search and rescue roundtable that includes federal, territorial and Indigenous governments, as well as local first responders. The roundtable should facilitate relationship building, improved communication, and the sharing of best practices regarding search and rescue, and planning for mass rescue operations.

The Government of Canada agrees in principle with the recommendation.

Public Safety Canada, through the National Search and Rescue Secretariat, will assess and explore options toward establishing a permanent Arctic SAR roundtable. A permanent roundtable would serve as a vital link between various strategic initiatives that include or touch upon elements of SAR, such as the 2019 whole-of-government *Arctic and Northern Policy Framework* (ANPF) led by CIRNAC, as well as Canada's participation in the Arctic Council and the Emergency Prevention, Preparedness and Response Working Group.

Following on the heels of recent academic-led roundtables, the need and desire for these forums is evident to further support a whole-of-government and whole-of-society approach for SAR and emergency management in the Arctic. Arctic SAR is unique in Canada where time, distance, and the hostile environment play a critical role in survivability. The lack of resources to effect a timely response requires a close cohesion of SAR partners across all levels of government as well as a whole-of-society approach. These partnerships can also play a significant role in prevention thereby reducing the frequency, duration, and severity of SAR incidents.

Recommendation 24: That the Government of Canada examine opportunities to improve community-based search and rescue capabilities, including through the expansion of Very High Frequency radio capabilities and other communications in the Arctic that support search and rescue efforts.

The Government of Canada agrees in principle with the recommendation.

Communications is often the vital link for timely, early alerting as well as for the effective coordination of a SAR response across the multiple sectors involved. Enhanced communications abilities, whether through the expansion of the Very High Frequency radio capabilities or other communications, are part of critical infrastructure. The importance of improved communications in the Arctic is a common theme in Arctic and Northern SAR discussions, and the Government agrees that whole-of-government and whole-of-society partnerships and initiatives should be examined.

Recommendation 25: That the Government of Canada establish additional marine search and rescue stations throughout the Arctic.

The Government of Canada agrees in principle with the recommendation.

Due to the Arctic's immense geography, sparse population, and challenging environmental conditions, building additional seasonal marine SAR stations throughout the Arctic is difficult, requires significant investment, and provides minimal marginal utility when compared marine SAR stations in more densely populated areas in Canada's South. In this context, and as a result of Government engagements with Arctic partners, most of whom have expressed a desire to self-determination, the Government has mandated the Canadian Coast Guard (CCG) to support the development of community-based marine emergency response capacity. This approach has enhanced the effectiveness of CCG's relationship with Indigenous Peoples in Canada's North and has translated into various projects such as the Indigenous Community Boat Volunteer program (ICBVP), the expansion of the Canadian Coast Guard Auxiliary (CCGA) and the creation of an Arctic Auxiliary Chapter.

For example, the CCG has invested heavily in the development, equipping, and training of community-based volunteer maritime SAR responders through the CCGA and delivery of the ICBVP. This latter program offers communities a process to apply for funding to purchase SAR capable vessels and equipment required to strengthen volunteer-based maritime safety and SAR capacity in the Arctic through participation in the CCGA. For its part, the Oceans Protection Plan (OPP) provided additional funding for the CCGAs with an Arctic footprint, such as the CCGA-Central & Arctic, CCGA-Quebec, and CCGA-Newfoundland, to expand their membership, as well as to establish an Arctic Chapter Annex within their funding agreements. This Arctic Chapter Annex provides additional flexibility in spending for the Arctic Auxiliary units allowing

them to address financial pressures and challenges related to their remote operating environments. The 2022 renewal of the OPP, approved the continuation of the ICBVP, additional funding for the CCGA, and will allow the CCG to undertake additional programs such as, the Indigenous Search and Rescue (ISAR) training and exercising program, that will further increase community-based marine emergency response capacity. Prior to 2016 when CCG began delivering these projects there were only seven CCGA units operating in the Arctic. As of February 2023, there are now CCGA units in 40 Arctic communities operated by more than 460 Auxiliary volunteers with access to 68 vessels. The CCG continues to engage and partner with local Indigenous and Inuit communities to operate more effectively using their local knowledge and expertise of Arctic waters.

Under the first phase of the OPP, the CCG also opened its first SAR station in Rankin Inlet in 2018. With additional funding from the Government of Canada for the second phase of OPP (OPP Renewal), the capabilities of the newly rebranded Arctic Marine Response Station (AMRS) will be enhanced to enable CCG to hire and train crews from local communities, to procure an appropriate Arctic SAR vessel, and to expand the station's operational season by one month annually beginning in 2023 to better align with the local boating season. This seasonal CCG asset dedicated to maritime SAR in the Canadian Arctic is augmented by seven to nine seasonally-deployed icebreakers and supported by the CCG Marine Communications and Traffic Services centre in Iqaluit. These icebreakers provide SAR response support to Arctic communities and ships while they carry out their primary missions of Arctic sealift, science, and vessel escorts.

The Government of Canada is also investing significantly in the CCG to increase shore-based and sea-going capacity by building vessels dedicated to Arctic operations, including: two Polar Icebreakers, six additional Icebreakers to carry-out CCG programs, one Multi-Purpose Vessel, and two Arctic Offshore Patrol Ships. The investment in Polar Icebreakers will strengthen and augment CCG's presence, range, and response capabilities in the Arctic, and will contribute to a whole-of-government approach to protecting Canada's sovereignty. Through the two phases of OPP, the CCG has made substantial progress and will continue to enhance SAR capabilities in the Arctic.

<u>Recommendation 26:</u> That the Government of Canada reform domestic defence procurement processes to ensure that major weapons systems and military equipment are delivered to the Canadian Armed Forces more expeditiously and on budget, and to prioritize the development of capabilities that contribute to Arctic defence and security.

The Government of Canada agrees in principle with the recommendation.

The Government recognizes the importance of acquiring equipment in a timely manner and managing capability risks associated with the surveillance of Canada's Arctic waters. The Government continues to collaborate with stakeholders to improve the timely acquisition of equipment to support Arctic defence and security, and conclude effective in-service support contracts for all relevant assets, including the development of a continuous capability sustainment approach for the service life of the equipment.