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Ambassador & Permanent Representative of Canada
to the International Organizations in Vienna**

**NATIONAL STATEMENT
IAEA International Conference on Nuclear Security
10-14 February 2020, Vienna, Austria**

Co-Presidents,
Excellencies,
Ladies and gentlemen,

At the outset, I wish to express my thanks to Romania and Panama for their steadfast efforts in co-chairing the drafting of the 2020 Ministerial Declaration. Canada supports this Declaration, which reiterates core nuclear security commitments by IAEA Member States. We also thank the Secretariat and Programme Committee for their tireless efforts.

Nuclear terrorism continues to stand as one of the gravest threats to international security. In order to sustain and strengthen nuclear security efforts worldwide, we must remain vigilant by not only keeping pace, but also staying ahead of how these threats are evolving.

By ensuring effective nuclear security, we promote safe and secure access to the benefits of nuclear technology for all. This is why Canada is a leading proponent of strong and sustainable nuclear security both at home and abroad. We steadfastly support the IAEA in its task to facilitate and coordinate assistance to Member States in strengthening their nuclear security regimes.

We will continue to work with the IAEA to enhance coordination within the Agency, and across the international nuclear security architecture. I am pleased to share key Canadian commitments in this regard.

First, through Canada's Weapons Threat Reduction Program, we are committing \$4.5 million towards the second phase of the Agency's Nuclear Regulatory Infrastructure Development project for developing countries in Latin America, and \$7.6 million towards a similar project in Africa. Earlier phases of these projects successfully illustrated the benefits of increased coordination of the Agency's security *and safety* work on radioactive sources. We are also pleased to build on other projects, including with Thailand, to enhance domestic and regional training capabilities to foster more sustainable nuclear security practices. I am pleased to announce \$2.5 million for the Agency's work on Nuclear Security Support and Training Centres, helping boost the IAEA's ability to ensure training and equipment is provided across different

regions. Finally, Canada is providing \$9.65 million towards strengthening the security of radioactive sources in 19 countries in Africa, Latin America and the Pacific.

With this additional funding, Canada is proud to be the third-largest contributing state to the IAEA's Nuclear Security Fund (NSF), having now contributed over \$58 million. We strongly encourage other states to contribute to the NSF. As an extra-budgetary mechanism the NSF is only sustainable as long as donors continue to support it, and as long as the Agency is adequately staffed to implement its nuclear security activities. Canada is enhancing coordination with other major NSF donors to minimize duplication of efforts and to ensure the efficient use of the Agency's resources.

Second, Canada remains committed to other multilateral initiatives, such as the Global Initiative to Combat Nuclear Terrorism (GICNT), under which Canada continues to chair the Nuclear Forensics Working Group. We fully support Morocco's leading role as the GICNT's Implementation and Assessment Group coordinator. Moreover, we remain a strong supporter of the Nuclear Security Contact Group, given its effort to build and sustain a strong and comprehensive international nuclear security architecture. We welcome the participation of all countries that subscribe to the Group's Statement of Principles, outlined in INFCIRC 899.

Third, we are pleased to continue our close collaboration with non-governmental and industry partners. This includes efforts with the World Institute on Nuclear Security on promoting certified training and gender equality among nuclear security personnel. We strongly encourage other States to do so by sponsoring INFCIRC 901 so that we can help ensure professionals who are demonstrably competent are managing the security of nuclear and other radioactive materials and facilities.

Co-Presidents,

Canada continues to advance nuclear security domestically. We prepared a detailed "Progress Report" that highlights updates since the 2016 Conference, and is available as an annex to this Statement on the Agency's website. I wish to highlight a few key updates. First, in collaboration with the U.S. Department of Energy, Canada has advanced efforts to minimize highly-enriched uranium (HEU). We have successfully repatriated all US-origin HEU fuel from our research reactors at Chalk River Laboratories. Canada therefore no longer maintains any HEU-fuelled research reactors, having also repatriated all US-origin HEU fuel from the University of Alberta and Saskatchewan Research Council research reactors. Second, as a global leader in nuclear

forensics, Canada is in the process of formalizing a federal framework for an enhanced and expanded national nuclear forensics capability.

Co-Presidents,

Because the risks associated with threats to nuclear security are shared risks, we all have a stake in each other's success. At present, the NSF is financing important capacity-building using voluntary funds. But looking ahead, we must treat nuclear security in a manner that is more commensurate with its real-world significance to our shared security interests. Ultimately, nuclear security is not an ad hoc issue, and the Agency's work in this domain is not transitory, but enduring. Over time, positioning the Agency – and each other – to meet this challenge will require greater effort, more resources, and a shared vision of the challenges we face.

Canada stands ready to help bring focussed attention to this effort.

Thank you.



NATIONAL PROGRESS REPORT
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Nuclear Security Policy Initiatives

- Nuclear Security Contact Group (NSCG): Canada served as the inaugural “Convener” of the NSCG in 2016-17, with the primary goal of sustaining momentum on strengthening nuclear security through engagement among senior levels after the conclusion of the Nuclear Security Summit process. Canada remains an active participant in the NSCG, with the aim to enhance nuclear security policy coordination, and sustain a culture of deliverables including through the promotion of various INFCIRCs.
- World Institute for Nuclear Security (WINS): Contributions towards enhancing gender equality in nuclear security (including funding a publication on [Gender and Nuclear Security](#)), emerging issues such as security of small modular reactors (including a workshop held in November 2019 with regulators and industry), and continued support for the WINS Academy and its certified training through promoting [INFCIRC/901](#).
- Nuclear Threat Initiative (NTI): Canada is supporting the NTI’s Global Dialogue process in support of nuclear security priorities, including in preparation for 2020 ICONS, the 2021 CPPNM/A Review Conference and the NSCG.
- Industry outreach: The Government of Canada has held information sessions with nuclear industry to discuss policy directions, including through Natural Resources Canada’s Quarterly Nuclear Energy Session in March 2019 focused on nuclear security, discussing cyber security and the security of small modular reactors.

Minimization of Sensitive Nuclear Materials:

- Highly Enriched Uranium (HEU) Repatriation to the United States (US): Further to a 2010 NSS commitment to repatriate its US-origin HEU fuel stored at Chalk River Laboratories, Canada has fully completed this repatriation initiative. Repatriation shipments began in 2010 and concluded in mid 2019.
- Repatriating other HEU-bearing materials: Atomic Energy Canada Limited (AECL) is repatriating its inventory of HEU-bearing liquids generated as a by-product from medical isotope production. Shipments of HEU-bearing liquids are ongoing and are expected to be completed in 2020.
- Radioisotope production: Canada ceased routine production of molybdenum 99 from AECL’s Chalk River National Research Universal reactor in October 2016, and fully shut-down this facility in March 2018, thereby ending HEU-based medical isotope production in Canada.
- Research reactors: The University of Alberta’s SLOWPOKE research reactor HEU fuel was repatriated to the US in August 2017, and the reactor was decommissioned in 2018. The Saskatchewan Research Council’s SLOWPOKE research reactor HEU fuel was repatriated to the US in September 2019, and the reactor was authorized for decommissioning in December 2019. These steps end the use of HEU-fuelled research reactors in Canada.
- Plutonium: Canada assessed that approximately three-quarters of its inventory of plutonium is ready for dispositioning, and discussions continue with the United Kingdom to determine whether the material can be accepted for long-term management, with the remaining material kept under safe and secure storage (subject to IAEA safeguards) for future research and development work.

Contribution to and Use of the IAEA's Nuclear Security-Related Activities and Services

- Nuclear Security Fund (NSF): Canada is the third-largest national contributor to the IAEA's NSF, having contributed over \$58 million since 2004.
- Nuclear Security Guidance Committee (NSGC): Canada actively participates and plays a leading role in the NSGC and provides assistance in the development of documents within the Nuclear Security Series.
- Integrated Nuclear Security Support Plans (INSSPs): Canada has worked with IAEA Member States to more effectively and strategically address their nuclear security needs through accessing non-sensitive parts of their INSSPs.
- Nuclear Security Support Centres (NSSCs): Canada is providing \$2.5M to the IAEA for their work on Nuclear Security Support Training Centres.
- INFCIRC/225: Canada is playing a leading role in the review of the INFCIRC/225, a key IAEA instrument for the protection of nuclear material against theft and sabotage (last meeting chaired by Canadian Nuclear Safety Commission's (CNSC) Director General (DG) for Security and Safeguards, Ms. Kathleen Heppell-Masys).
- International Conference on Physical Protection of Nuclear Material and Nuclear Facilities: Canada actively participated in and chaired the International Conference on Physical Protection of Nuclear Material and Nuclear Facilities (chaired by CNSC DG Kathleen Heppell-Masys).

Strengthening Nuclear and Other Radiological Material Security

- Design Basis Threat (DBT): Canada is currently undertaking a thorough analysis and evaluation process to update its DBT for high-security nuclear facilities.
- Transport Security: As one of the original co-sponsors of [INFCIRC/909](#), Canada participated in Japan's first International Transport Security Symposium on 12-14 November 2019. Canada strongly supports solutions to mitigate risks associated with the transport of sensitive nuclear materials, and strengthening the associated international security regimes.
- Insider Threats: Canada participated in 12-14 March 2019 International Symposium on Insider Threat Mitigation in support of our commitments under [INFCIRC/908](#), helping advance discussions and actions aimed at enhancing effective and proactive insider threat mitigation practices in nuclear and radiological facilities.
- IAEA Code of Conduct & Supplementary Guidance: Canada made a political commitment in September 2018 to implement the supplementary Guidance on the Management of Disused Radioactive Sources, complementing existing commitments to implement the Code of Conduct itself, and the Guidance on the Import and Export of Radioactive Sources.
- Federal Nuclear Science & Technology (FNST) Work Plan: Atomic Energy Canada Limited (AECL), with the Canadian Nuclear Laboratories as its performing organization, continues to perform nuclear-related science and technology (S&T) research to support national and international objectives on nuclear security, non-proliferation and counter-terrorism. Key research areas include S&T research on: monitoring, tracking and characterizing illicit nuclear materials; methods related to nuclear safeguards, verification, and security; nuclear forensics material characterization and techniques; and cyber security methodologies for monitoring, detecting and mitigating cyber-intrusion and cyber-attacks at nuclear facilities; as well as technologies and capabilities to respond in the event of a radiological or nuclear emergency in Canada or abroad.
- Canadian Safety and Security Program (CSSP): Managed through Defence Research and Development Canada (DRDC), in partnership with Public Safety Canada, the CSSP aims to strengthen Canada's ability to anticipate, prevent/mitigate, prepare for, respond to, and recover

from acts of terrorism, crime, natural disasters, and serious accidents through the convergence of S&T with policy, operations and intelligence.

- Emergency Preparedness: Canada was the first country with a large nuclear power programme to host an IAEA Emergency Preparedness Review (EPREV) mission in June 2019, which included requirements related to the interface between emergency arrangements and nuclear security. The review commended Canada's mature emergency preparedness system across all levels.
- Nuclear Threat Initiative's (NTI) 2018 Nuclear Security Index: Canada is pleased to retain a high ranking in the NTI's [2018 Nuclear Security Index](#). Canada ranked third in the Theft Ranking for countries with weapons-usable nuclear materials. Since 2016, Canada has improved its nuclear security conditions by adopting new insider threat-mitigation requirements and by requiring a cyber-incident response plan at nuclear facilities. In the Sabotage Ranking, Canada tied in second place, having improved nuclear security conditions by requiring a cyber-incident response plan for nuclear facilities and by enhancing its insider threat mitigation regulations to ensure that personnel are subject to multiple vetting checks.

Nuclear Forensics Capabilities

- Formalization of national capabilities: Canada is in the process of transitioning multiple scientific research and development as well as technical and operational capability development programs into a formalized federal inter-departmental / agency framework for an enhanced and expanded national nuclear forensics capability.
- Prompt post-detonation nuclear forensics: Natural Resources Canada has established a capability for prompt post-detonation nuclear forensics.
- Chairing the Global Initiative to Combat Nuclear Terrorism (GICNT) Nuclear Forensics Working Group (NFWG): Since 2017, Canada has chaired the NFWG, one of the GICNT's three working groups. Highlights include producing tangible outputs such as the Nuclear Forensics Self-Assessment Tool and the Nuclear Forensics Chapter of the GICNT Exercise Playbook. Canada has also hosted joint exercises with other GICNT working groups, such as "Resolute Sentry" in January 2019, which have effectively exercised and advanced the concept of cross-disciplinary interoperability among States' departments and agencies.

Information & Cyber Security

- Domestic regulations: CNSC has included cyber security requirements from the CSA N290.7-14 standard in relevant license condition handbooks and licensees are implementing the new standard with target completion dates in 2019–2020. The CNSC has inspected cyber security programs at Canadian nuclear power plants and will inspect the updated programs once they have finished implementing the new standard. In addition, the CNSC will inspect its national nuclear lab facilities against cyber security requirements.
- Domestic Coordination: The Government of Canada is meeting regularly to enhance coordination and discuss cyber security efforts related to nuclear infrastructure both domestically and globally.
- IAEA Cyber Security activities: Canada has made past and continuing contributions to the development of IAEA training, including courses such as the physical security International Training Course (ITC), a cyber security ITC, an assessments course, and a hands-on course.
- IAEA Coordinated Research Project (CRP): In mid-2019, Canadian Nuclear Laboratories (CNL) was selected by the IAEA to host an international exercise to demonstrate and test cyber security resilience for nuclear power plants in a full-scale cyber physical simulation of control and safety systems. The exercise hosted 24 participants from 12 IAEA CRP organizations. CNL maintains a cyber security research facility in Fredericton, New Brunswick. This facility can model the typical architectures of business and process control networks in order to monitor networks for potential problems and improve security.

- G7 side meeting on cyber security in 2018: Canada, Germany, Japan, UK and US counterparts shared experiences and best-practices in establishing national strategies and frameworks for cybersecurity at nuclear facilities, and identified possible areas for future collaboration.

Efforts to Combat Illicit Trafficking

- Radiation Detection Network (RADNet): Canada Border Services Agency has upgraded Canada's RADNet to help prevent illicit trafficking via commercial marine containers entering Canada; stand-alone, automated radiation detection portals detect potential radiation in shipping containers at Canada's major marine ports.
- IAEA Incident and Trafficking Database (ITDB): Canada continues to participate in international information sharing on illicit trafficking of nuclear material through contributions to the IAEA's ITDB and through bilateral cooperation.
- Cooperative Threat Reduction Programming: Canada has provided nearly \$50M in support to Jordan, Colombia and Mexico to detect and respond to security incidents involving nuclear or radiological materials such as illicit trafficking or attempted theft. This support includes the provision of radiation detection equipment (fixed, handheld and mobile), operational and maintenance training, and assisting with the development of concepts of operations.

Support for International Legal Instruments

- CPPNM and CPPNM/A: Canada coordinated diplomatic outreach with G7 partners to a number of countries to continue universalization efforts. Canada also supported regional workshops in Latin America and Africa to help boost universalization and implementation efforts
- ICSANT: Canada co-hosted with UNODC the 10th Anniversary event for ICSANT in Vienna in December 2017, facilitating an exchange of experiences and best practices as part of wider nuclear security legal instrument universalization. A Co-Chairs summary was circulated in all UN languages in the IAEA context as [INFCIRC/924](#).

Support for other Nuclear Security Related International Activities

- INTERPOL: Canada is a significant contributor (with the US and UK) to INTERPOL's CBRN threat reduction activities, and has provided \$5M of support over three years (2019-22) for international capacity-building activities of its Radiological and Nuclear Terrorism Prevention Unit, such as staffing, maintaining a risk database, conducting national capabilities assessments and training curriculum, and programming in target countries.
- Global Initiative to Combat Nuclear Terrorism: Canada has hosted exercises developed jointly with the two other working groups of the GICNT to more holistically exercise nuclear security capabilities through a whole-of-government approach. Canada also provides funding to support Canadian subject matter expert participation and support for participants and workshops via the GICNT Secretariat.
- G7-led Global Partnership Against the Spread of Weapons and Materials of Mass Destruction: Canada's 2018 G7-presidency included chairing the Global Partnership and its Nuclear & Radiological Security Working Group. Canada engaged in a "back to basics" approach, aiming for enhanced coordination of policy and programming efforts in nuclear security. Canada also re-established a "matchmaking" exercise to connect donor states with requesting States.
- Regional-level Capacity Building: Canada has closely supported capacity building for nuclear and radiological security, nuclear forensics and counter-nuclear terrorism and smuggling on a regional level, given the unique security considerations that can be more effectively addressed on a regional basis. Furthermore, Canada supported a paper by China in the Nuclear Security Contact Group that addresses Regional Capacity Building and Cooperation on Nuclear Security, and Canada participated in a high-level Symposium on Nuclear Security Capacity Building in the Asia-Pacific Region held in Beijing on 20-21 November 2019.