

# Canadian Nuclear Safety Commission

2019–20

## **Departmental Plan**

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Minister of Natural Resources

Departmental Plan  
Canadian Nuclear Safety Commission

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## President's message

I am pleased to present the 2019–20 Departmental Plan of the Canadian Nuclear Safety Commission (CNSC), which provides parliamentarians and Canadians with information about our work and the results we aim to achieve during the upcoming fiscal year.

The CNSC regulates the use of nuclear energy and materials to protect health, safety, security and the environment, implements Canada's international commitments on the peaceful use of nuclear energy, and disseminates objective scientific and regulatory information to members of the public.

In 2019–20, the CNSC will focus on regulatory oversight of the refurbishment of the Darlington Nuclear Generating Station and the preparation for refurbishment of the Bruce Nuclear Generating Station, verifying that the projects are done safely and that the required safety improvements are implemented.

We will also continue performing environmental assessments of Canadian Nuclear Laboratories' proposed major projects. These include the Near Surface Disposal Facility at Chalk River Laboratories and the decommissioning of the Nuclear Power Demonstration Waste Facility in Rolphton, both in Ontario, as well as the decommissioning of Whiteshell Laboratories in Manitoba.

The CNSC will continue conducting vendor design reviews for new small modular reactor (SMR) concepts from vendors who have expressed an interest in obtaining our feedback on how their designs are addressing Canadian regulatory requirements. As interest grows in these new reactor concepts, we will focus on developing an overall strategy for the regulation of SMRs.

Furthermore, the CNSC will be hosting international peer review missions, providing an additional process through which we can enhance the effectiveness of our regulatory regime. In the coming fiscal year, we will be hosting two such missions: one for our regulatory framework as a whole (Integrated Regulatory Review Service) and one for our preparedness for nuclear emergencies (Emergency Preparedness Review Service). We will also be leading or participating in similar missions in other countries in an effort to support global nuclear safety and accountability.

Our commitment to safety as the highest priority and to the achievement of our departmental results means strengthening our organization.

To do so, we will continue growing as a world-class regulator which entails having a flexible, yet robust, regulatory framework that adapts to an evolving operating environment. This involves a



well-resourced organization with the capacity, expertise and agility to regulate effectively and to proactively anticipate challenges and opportunities rather than react to them.

We will aim to strengthen public trust in nuclear regulatory oversight by being even more transparent in our efforts and with our information. We will actively listen to concerned parties and engage with a variety of different audiences, including the Canadian public, civil society, non-governmental organizations, Indigenous peoples, and our domestic and international counterparts.

At the CNSC, we value our diversified workforce. We are committed to an inclusive work environment that leverages everyone's strengths to achieve our goals. Diversity and inclusion allow us to be more innovative and productive, and support a healthy and respectful workplace. With opportunities for professional growth in rewarding careers, we hope to demonstrate that the CNSC is a desirable employment destination and earn the commitment of our current and future employees.

Finally, as a science-based organization, we remain committed to promoting a culture that encourages open, professional and respectful scientific debate that is free from harassment and discrimination. The ability to raise issues without fear of reprisal is an important element of a healthy safety culture. To this end, the CNSC will implement recommendations following a self-assessment against international principles of safety culture for nuclear regulators, and it will continue strengthening its oversight of licensees' safety culture.

Thank you to the CNSC's highly skilled, professional staff who are dedicated and committed in their efforts to regulate Canada's nuclear industry and to keep the environment and Canadians safe. I look forward to working with them in the years to come. Rest assured that we will continue to be true to our goals and to enforce the highest safety standards.

*Electronic Signature*

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Rumina Velshi  
President

## Plans at a glance and operating context

The commitment to the CNSC’s core responsibility of nuclear regulation, the fulfillment of its mandate and the achievement of its departmental results for 2019–20 and beyond are delivered through five programs (plus Internal Services) and guided by four strategic priorities.

Core Responsibility: Nuclear Regulation					
Departmental Results					
Program Inventory	1	Nuclear Reactors	The environment is protected from releases from nuclear facilities and activities	Strategic Priorities	
	2	Nuclear Fuel Cycle			
	3	Nuclear Substances and Prescribed Equipment	Canadians are protected from radiation resulting from nuclear facilities and activities		Modern nuclear regulation
	4	Nuclear Non-Proliferation	Nuclear material and substances, facilities and activities are secure and used for peaceful purposes		Global nuclear influence
	5	Scientific, Regulatory and Public Information	Canadians, including Indigenous peoples, have meaningful information about, and the opportunity to participate in, the nuclear regulatory process		Trusted regulator
	Internal Services		Enabling goals		

The CNSC is committed to a **modern approach to nuclear regulation** using science-based, risk-informed, and technically sound regulatory practices that take into account scientific uncertainties and evolving expectations.

**Figure 1: A turbine spindle being lifted into place in the refurbishment of Unit 2 at the Darlington Nuclear Generating Station.**



Technology continues to advance at a rapid pace, and a growing gap can be observed between it and the pace at which government adopts policies and regulations. Developments in technology are already shaping Canadians’ expectations for interacting with government and driving much needed improvements in day-to-day business. In the context of the CNSC, regulation will need to account for any number of innovative technologies in the nuclear sector, such as small modular reactors (SMRs) and proton therapy facilities.

Concurrently, in the wider government context, the Government of Canada has proposed legislation, under Bill C-69, to establish new rules for the assessment of potential impacts of major projects in Canada. This legislation would broaden the scope for assessing how a proposed

project could affect not only the environment, but also other factors such as health, the economy, Indigenous peoples and society as a whole over the long term.

To be able to address these changes on the technological front, the CNSC will develop the capability to evaluate the scope of the regulatory implications of new and innovative nuclear technologies, and in particular, in the coming years it will develop a strategic plan for the regulation of SMRs. The CNSC will also continue to monitor and participate in government reviews, as well as conduct the necessary research to be ready to implement any forthcoming legislative and regulatory changes. By maintaining awareness of the fluctuations in the operating environment and addressing them proactively, the CNSC is better equipped to keep the environment and Canadians safe.

The CNSC continuously strives to be a **trusted regulator** recognized by the public, Indigenous peoples and industry as independent, open and transparent, and as a credible source of scientific, technical and regulatory information. In an era of greater expectations for citizen engagement, it is critical to understand the causal factors related to trust and how to address them. The CNSC will examine this issue comprehensively with a view

**Figure 2: Youth outreach at the Canada-Wide Science Fair.**



to developing a coherent, coordinated and focused strategy on trust-building. A key element of this approach is fresh thinking about stakeholder engagement, communications and transparency.

The CNSC will also continue proactive, regionally focused and formalized engagement with interested Indigenous communities and organizations throughout the lifecycle of CNSC-regulated facilities to address the interests and concerns of participants and support the development and strengthening of long-term relationships. Such efforts will assist the CNSC in achieving its expected result of ensuring that Canadians, including Indigenous peoples, have meaningful information about, and the opportunity to participate in, the nuclear regulatory process.

In this environment of transparency and accountability, the CNSC employs other tools, such as internal audits and evaluations, to independently and objectively assess its performance in terms of effectiveness and efficiency in relation to its regulatory mandate, as well as give advice on related improvement initiatives. The CNSC also recently self-assessed its safety culture against the framework developed by the Nuclear Energy Agency's [regulatory guidance report](#).<sup>1</sup>



### Independent Commission at the CNSC

In addition to being a regulatory organization, the Commission is a quasi-judicial administrative tribunal set up at arm's length from government. The Commission makes most decisions through a public hearing process, guided by clear [rules of procedure](#).<sup>2</sup> Interested parties, Indigenous peoples and members of the public may be heard at proceedings that are periodically held in communities close to major nuclear facilities, in order to make them as accessible as possible to affected persons. Additionally, the [Participant Funding Program](#)<sup>3</sup> is available to support Indigenous and public participation in these proceedings.

The Commission has up to seven permanent members, appointed by the Governor in Council, and is supported by CNSC employees across Canada. The President of the CNSC is a full-time Commission member, while other members may be appointed to serve on a full- or part-time basis. Commission members commit to the highest standards of ethics and conflict-of-interest guidelines, and carry out their duties impartially. On March 12, 2018 three new Commission members were appointed and a fourth member was reappointed.

**Figure 3: CNSC President Rumina Velshi (middle), Senior General Counsel Lisa Thiele (second from left), Commission Secretary Marc Leblanc (third from left), alongside members of the Commission.**



The CNSC will maintain its **global nuclear influence**, leveraging and influencing global nuclear efforts relevant to Canadian interests and activities to enhance international nuclear safety, security and non-proliferation. While nuclear energy is being phased out in some states, it is expanding in many others, with newly developing regulatory frameworks and infrastructure. As these states adopt nuclear energy, it is more important than ever to encourage international accountability and transparency to strengthen the global nuclear safety regime.

**Figure 4: The CNSC delegation, led by CNSC President Rumina Velshi, at the 62nd General Conference of the IAEA in September 2018.**



The CNSC’s membership and participation in international activities also ensure that the CNSC’s regulatory activities are consistent, as appropriate, with internationally agreed upon best practices and principles. The CNSC will be participating in several international peer review missions over the next two years. The CNSC has requested an [Integrated Regulatory Review Service \(IRRS\)](#)<sup>4</sup> mission, which offers a unique opportunity for other regulators and the International Atomic Energy Agency (IAEA) to assess the CNSC’s regulatory framework against international standards and best practices. The CNSC will also be participating in an [Emergency Preparedness Review \(EPREV\)](#)<sup>5</sup> mission to Canada, which tests the country’s level of preparedness for nuclear or radiological emergencies. Externally, the CNSC will have the opportunity to cultivate its global influence by leading IRRS missions in the United Kingdom in 2019 and in Japan in 2020. Along with many of its internal processes, international cooperation provides an additional tool with which the CNSC can assert that nuclear material and substances, facilities and activities are secure and used for peaceful purposes.

The CNSC will continue to **improve management effectiveness** to ensure that it is a flexible and highly skilled organization that is representative of Canada’s diverse population, supported by modern management practices and tools, and to ensure that it responds to an evolving workforce and industry. Improvements in this area support the attainment of the CNSC’s priorities and its departmental results. In particular, the CNSC has embarked on the digital transformation of key business processes to ensure efficient and effective regulatory oversight. Key areas of focus include enhancing information and knowledge management and improving analytic capabilities to strengthen the CNSC’s ability to generate data-driven insights. In addition, the CNSC will upgrade its enterprise architecture to meet the expectations for secure, mobile business transactions.

For more information on the Canadian Nuclear Safety Commission’s plans, priorities and planned results, see the “Planned results” section of this report.

## Planned results: What we want to achieve this year and beyond

### Core responsibility

#### Nuclear regulation

##### Description

The CNSC regulates the use of nuclear energy and materials to protect health, safety, security and the environment; implements Canada’s international commitments on the peaceful use of nuclear energy; and disseminates objective scientific and regulatory information to members of the public. The CNSC maintains a regulatory framework and conducts licensing (including environmental assessments), compliance verification and enforcement. The CNSC is committed to building and maintaining the confidence of the public and Indigenous peoples through transparent, open and inclusive regulatory processes.

##### Life cycle regulation

The CNSC is one of the only federal regulators to regulate the entire lifecycle of a project, from resource extraction, through fuel processing and power production, to decommissioning and waste management.

##### Planning highlights

**Departmental Result 1:** The environment is protected from releases from nuclear facilities and activities.

**Departmental Result 2:** Canadians are protected from radiation resulting from nuclear facilities and activities.

For the CNSC to achieve its planned results, risks must be identified, monitored and controlled across all nuclear facilities and activities by CNSC inspectors who conduct compliance verification activities for nearly 1,700 licensees across various sectors. Of note in 2019–20, the CNSC will continue to provide regulatory oversight and environmental reviews for the Port Hope Area Initiative, representing the Government of Canada’s commitment to respond to the community-recommended solutions for the cleanup and local, long-term, safe management of the historic low-level nuclear waste. In addition, the CNSC will review licensee planning for new radioisotope production at the Bruce and Darlington Nuclear Generating Stations.

To ensure that there is consistency in licensing and compliance verification, the CNSC’s regulatory framework must be clear and understood by licensees in support of nuclear safety. The regulatory framework consists of laws<sup>6</sup> passed by Parliament that govern the regulation of Canada’s nuclear industry, and regulations, licences and documents that the CNSC uses to regulate the industry. In this regard, particular attention will be paid in 2019–20 to the areas of waste and decommissioning.

### Gender-based analysis plus (GBA+) in regulations

At the CNSC, the [Regulatory Framework Plan](#)<sup>7</sup> maps out our regulatory document review/development schedule and is published online. The CNSC’s regulatory suite is reviewed on a cyclical basis and undergoes a thorough analysis prior to development or publication. This analysis includes GBA+ considerations not only for regulations, but for all regulatory framework documents.

Power reactors apply a defence-in-depth approach that anticipates and mitigates potential challenges caused by both internal and external events. While a possibility remains that an event can lead to an accident at a nuclear reactor, the CNSC is not only providing ongoing robust regulatory oversight of existing facilities, but also conducting research on aging reactors throughout the plant life cycle to maintain the safety of Canada’s nuclear stations. Moreover, the CNSC will provide regulatory oversight for a [periodic safety review \(PSR\)](#)<sup>8</sup> to be undertaken by the licensee at the Point Lepreau Nuclear Generating Station in New Brunswick. A PSR involves an assessment of the current state of the plant and its performance to determine the extent to which it conforms to applicable modern codes, standards and practices, and to identify any factors that would limit safe long-term operation. Operating experience in Canada and around the world, new knowledge from research and development activities, and advances in technology, are taken into account.

### Emergency preparedness at the CNSC

As part of the defence-in-depth approach, the CNSC requires that all major nuclear facilities in Canada have comprehensive emergency preparedness programs and response plans to deal with potential incidents at their sites. These plans must be harmonized with those of other stakeholders, including the CNSC, provinces and municipalities, as well other federal partners. For its part, the CNSC maintains a comprehensive [Emergency Response Plan](#).<sup>9</sup>

**Figure 5: CNSC staff in the Emergency Operations Centre during Exercise Synergy Challenge in October 2018.**



The CNSC has participated in several nuclear emergency exercises, most recently, [Exercise Synergy Challenge 2018](#)<sup>10</sup> at the Point Lepreau Nuclear Generating Station. Along with its usual enhancements to emergency preparedness, in 2019–20, the CNSC will focus on communications during emergency and crisis scenarios. The CNSC will also be welcoming an IAEA Emergency Preparedness Review (EPREV) mission in Canada, which tests the country’s level of preparedness for nuclear or radiological emergencies.

One of the many resources the CNSC uses to achieve the departmental results related to the protection of the environment and Canadians is its laboratory. The CNSC Laboratory supports the organization by providing sample analysis and radiation instrument calibration services. It provides advanced radiation instrument training and expert services in the fields of radiochemistry, chemistry, radiation physics and nuclear forensics. It also plays an important role in the CNSC's [Independent Environmental Monitoring Program](#)<sup>11</sup> which verifies that the public and the environment around CNSC-regulated nuclear facilities are not adversely affected by releases to the environment. In keeping with Government of Canada infrastructure commitments in [Budget 2016](#),<sup>12</sup> the CNSC will establish a vision to ensure synergies are developed when the CNSC Laboratory joins other federal laboratories under the Federal Science and Technology Infrastructure Initiative.

**Departmental Result 3: Nuclear material and substances, facilities and activities are secure and used for peaceful purposes.**

The CNSC provides credible assurance that nuclear material in Canada remains in peaceful use, and that international transfers of nuclear goods and technology are used solely for peaceful purposes.

To implement this portion of its mandate, the CNSC fulfills procedural commitments and obligations under bilateral [Nuclear Cooperation Agreements \(NCA\) and Administrative Arrangements \(AA\)](#).<sup>13</sup> The CNSC also implements a licensing and compliance process to ensure that imports and exports of nuclear substances, prescribed equipment and prescribed information (technology) conform to regulatory requirements, as well as to Canada's [nuclear non-proliferation](#)<sup>14</sup> policy and international obligations and commitments. In addition, the CNSC works with the IAEA and Canadian operators to maintain the IAEA's broader conclusion for Canada, which confirms the absence of undeclared nuclear materials and activities in Canada. To further enhance safeguards, in 2019–20 the CNSC anticipates finalizing and implementing new practical arrangements for safeguards under the IAEA's revised state-level approach for Canada.

Nuclear security is a major consideration in all activities of the CNSC. The CNSC is responsible for enforcing Canada's [Nuclear Security Regulations](#)<sup>15</sup> and works closely with nuclear operators, law enforcement and intelligence agencies, international organizations and other government departments to ensure that nuclear materials and facilities are adequately protected. Licensees adhere to stringent nuclear security requirements set forth by the CNSC and have programs in place to prevent the theft, loss or illicit use of nuclear substances. To mitigate this risk even further, the CNSC will strengthen these requirements through 2019–20 by focusing on amendments to the *Nuclear Security Regulations* and on cyber security at nuclear power plants and in other facilities.

Concerns exist over the non-malevolent loss or appropriation of nuclear substances as well. The CNSC regulates close to one million shipments of radioactive material in Canada every year. Several industrial and commercial applications involve the use of portable radiation devices. Medical isotopes are increasingly being imported from overseas. As the use and transport of nuclear substances increases, there may be an increased risk of their loss or appropriation, and increased potential for transport events resulting in an incident and/or risks to public safety. The CNSC requires licensees to have established procedures for the proper handling of such materials, and all shipments of risk-significant material are required to have a transport security plan as well as an emergency response assistance plan. CNSC staff recently commissioned a study to analyze available accident data and to assess relative safety risks specific to accidents involving large trucks on Canadian roadways. The CNSC will be assessing how the results of the study could be used to mitigate this risk even further.

**Figure 6: The radiation safety officer is responsible for the effective management of the Radiation Protection Program.**



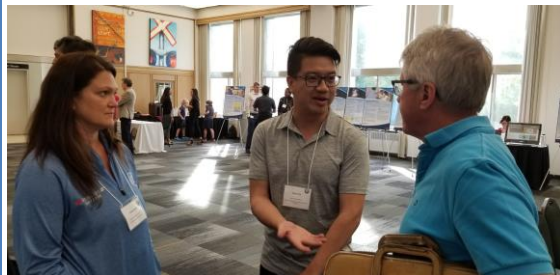
**Departmental Result 4:** Canadians, including Indigenous peoples, have meaningful information about, and the opportunity to participate in, the nuclear regulatory process.

The CNSC is a responsive regulator that supports public and Indigenous participation in the CNSC’s regulatory processes. The CNSC’s public hearing and meeting processes are open to the public, often held in the community and live webcast. This is recognized internationally by nuclear regulators as a best practice to emulate. Regulatory framework documents are also open to public and Indigenous consultation prior to publication. Furthermore, the CNSC frequently participates in community outreach activities, and answers media calls and public information inquiries. In 2019–20, the CNSC will explore further enhancements to its Commission proceedings by examining options for revising the role of interested parties (beyond licensees and CNSC staff), and it will implement new tools for access, participation and information sharing.

In just the past few years, immense progress has been and will continue to be made by both the CNSC and licensees to make documents and reports readily available online to members of the public. Beginning in 2018, documents submitted for Commission proceedings became downloadable from the [CNSC website](#).<sup>16</sup> Building on these efforts, the CNSC will evaluate the scope of additional preliminary licensing and compliance information that can be made available

to the public in support of upcoming hearings. The CNSC will also strengthen its approach to communicating the science behind its regulatory decisions, and it will implement other modern communications best practices such as focusing on digital products and targeting youth, Indigenous and STEM communities, to enhance public confidence in nuclear regulation. Such initiatives support the Government of Canada's proactive approach to open government.

### Meet the Nuclear Regulator



**Figure 7. CNSC employees at a Meet the Nuclear Regulator event in Ottawa, Ontario in June 2018**

The CNSC's [Meet the Nuclear Regulator](#)<sup>17</sup> events provide a comprehensive overview of the CNSC and its activities to a wide variety of stakeholders. In addition, targeted outreach programs, such as those for nuclear substance and radiation device licensees, provide relevant regulatory information to specific stakeholder groups.

In addition, experts at the CNSC are often asked to present technical papers and give presentations about the nuclear industry at conferences, seminars, technical meetings and workshops in Canada and around the world, some of which are made available on the [CNSC's website](#)<sup>18</sup>. CNSC staff also contribute to research projects under the [CNSC Research and Support Program](#)<sup>19</sup>, which includes research in areas such as material degradation and waste management.

## Planned results

Departmental Results	Departmental Result Indicators	Target	Date to achieve target	2015–16 Actual results	2016–17 Actual results	2017–18 Actual results
The environment is protected from releases from nuclear facilities and activities	Number of instances of radiological releases that exceeded regulatory limits	0	Fiscal annual	0	0	1 <sup>1</sup>
	Number of instances of hazardous releases that exceeded regulatory limits	0	Fiscal annual	0	0	0
	Percentage of Independent Environmental Monitoring Program (IEMP) samples (food, water, air and vegetation) that met guidelines	100%	Fiscal annual	98.7%	80%	90% <sup>2</sup>
Canadians are protected from radiation resulting from nuclear facilities and activities	Number of radiation doses to members of the public that exceeded regulatory limits	0	Fiscal annual	0	1 <sup>3</sup>	0
	Number of radiation doses to workers that exceeded regulatory limits	0	Fiscal annual	0	2 <sup>4</sup>	1 <sup>5</sup>
Nuclear material and substances, facilities and activities are secure and used for peaceful purposes	Number of instances of non-peaceful or malicious use of Canadian exports of nuclear substances, equipment and information	0	Fiscal annual	0	0	0
	Number of lost or stolen radioactive sealed sources	≤ 2	Fiscal annual	0	1 <sup>6</sup>	0
	Canada's international commitments to the International Atomic Energy Agency (IAEA) with respect to nuclear safeguards and verification are met	Receipt of broader conclusion	Calendar annual	Met	Met	Met
Canadians, including Indigenous peoples, have meaningful information about, and the opportunity to participate in, the nuclear regulatory process	Percentage of CNSC proceedings that were accessible to members of the public and Indigenous peoples	> 90%	Fiscal annual	100%	100%	100%
	Percentage of CNSC proceedings for which the Participant Funding Program (PFP) was made available to members of the public and Indigenous peoples	> 90%	Fiscal annual	N/A – started offering PFP for all public proceedings in 2016	100%	100%
	Percentage of public proceedings documents that were available in a timely manner upon request by members of the public and Indigenous peoples	> 90%	Fiscal annual	N/A – started recording the data in 2016	100%	100%
	Number of Indigenous peoples who participated in CNSC proceedings	Increasing trend	Fiscal annual	11	8	20

<sup>1</sup> The reported exceedance was in relation to the monthly average discharge limit for radium-226 at the Elliot Lake decommissioned uranium mine site for the month of January 2018. Follow-up monitoring in the environment confirmed that there were no radiological impacts to the public or the environment.

<sup>2</sup> Some sites are known to be contaminated; therefore, if sampling is done at a contaminated site during a fiscal year, the percentage of samples that meet guidelines will trend downwards that year. Noted exceedances for all three fiscal



years were expected, as they are similar to values reported by CNSC licensees' environmental monitoring programs. No additional unexpected exceedances were noted. Exceeding a guideline does not mean that there is an expected health impact; rather, it triggers a more in-depth assessment by CNSC staff to ensure that the health and safety of people and the environment are protected. In all noted cases, CNSC staff have concluded that the public and environment are protected from ongoing releases from nuclear facilities and activities.

<sup>3</sup> On September 24, 2016, a member of the public received a dose of approximately 1.62 mSv, which is above the annual regulatory effective dose limit of 1 mSv for members of the public, but would not result in any effect on the health and safety of the person. The member of the public was a passenger in a vehicle operated by a driver that was under contract with a carrier company, carrying packages that contained nuclear substances. This practice is not authorized under the *Packaging and Transport of Nuclear Substances Regulations, 2015*<sup>20</sup> and involved a number of non-compliances with the application of the *Packaging and Transport of Nuclear Substances Regulations, 2015* and the *Transportation of Dangerous Goods Regulations*<sup>21</sup>. The incident was reported to the Commission in Commission Member Document (CMD) 16-M69 on December 14, 2016.

<sup>4</sup> On October 28, 2016, a nuclear energy worker received a dose of approximately 1.1 Sv to the left hand when the worker experienced contamination during routine administration (injections) of a nuclear substance to patients. The dose was in excess of the annual regulatory equivalent dose limit of 500 mSv. No health effects have been observed since the incident and no physical effects due to the exposure are expected. The incident was reported to the Commission on December 14, 2016, in CMD 16-M72. On March 1, 2017, a nuclear energy worker received a dose of approximately 2.3 Sv to the right hand when the worker experienced contamination during the administration of therapeutic doses of a nuclear substance to patients. The dose was in excess of the annual regulatory equivalent dose limit of 500 mSv. No health effects have been observed since the incident and no physical effects due to the exposure are expected. The incident was reported to the Commission on April 12, 2017, in CMD 17-M22.

<sup>5</sup> In February 2018, a nuclear energy worker received a dose of approximately 3.6 Sv to the right wrist, in excess of the annual regulatory equivalent dose limit of 500 mSv. No health effects have been observed since the incident and no physical effects due to the exposure are expected. The incident was reported to the Commission on March 15, 2018 in CMD 18-M18.

<sup>6</sup> A Category 2 (high-risk) exposure device was lost on August 3, 2016 and recovered on August 4, 2016. CNSC packaging requirements for this type of device are designed to withstand extreme drops, fire and direct impacts. Therefore, the device was in safe condition to be transported back to a secure storage location for inspection. There was no impact to members of the public or the environment, and the CNSC was in constant contact with the licensee and local response authorities to ensure that appropriate follow up actions were taken. More information on lost and stolen sources available on the [Canadian Nuclear Safety Commission's website](#).<sup>22</sup>

#### Budgetary financial resources (dollars)

2019–20 Main Estimates	2019–20 Planned spending	2020–21 Planned spending	2021–22 Planned spending
100,803,165	107,748,059	108,436,742	109,458,451

#### Human resources (full-time equivalents)

2019–20 Planned full-time equivalents	2020–21 Planned full-time equivalents	2021–22 Planned full-time equivalents
639	635	629

Financial, human resources and performance information for the Canadian Nuclear Safety Commission's Program Inventory is available in the [GC InfoBase](#).<sup>23</sup>

## Internal Services

### Description

Internal Services are those groups of related activities and resources that the federal government considers to be services in support of Programs and/or required to meet corporate obligations of an organization. Internal Services refers to the activities and resources of the 10 distinct services that support Program delivery in the organization, regardless of the Internal Services delivery model in a department. These services are:

- Management and oversight
- Communications
- Legal Services
- Human resources management
- Financial management
- Information management
- Information technology
- Real property management
- Materiel management
- Acquisition management

#### Budgetary financial resources (dollars)

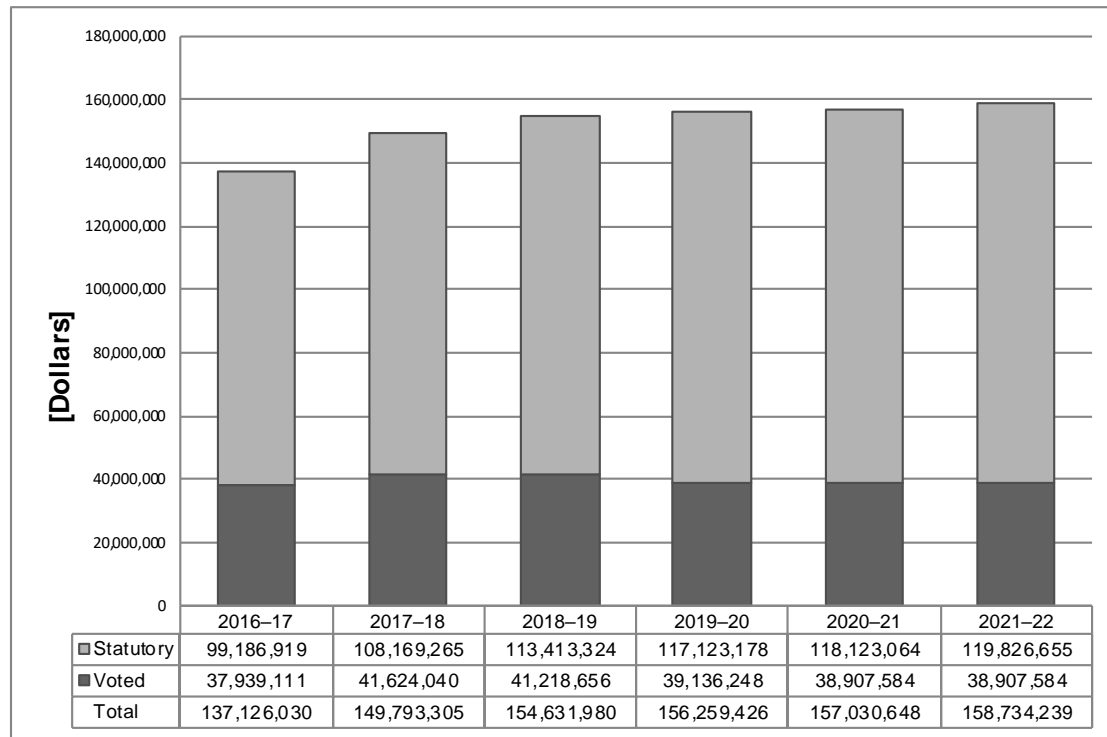
2019–20 Main Estimates	2019–20 Planned spending	2020–21 Planned spending	2021–22 Planned spending
43,842,009	48,511,367	48,593,906	49,275,788

#### Human resources (full-time equivalents)

2019–20 Planned full-time equivalents	2020–21 Planned full-time equivalents	2021–22 Planned full-time equivalents
296	293	293

## Spending and human resources

### Planned spending



Departmental spending trend graph

### Budgetary planning summary for core responsibilities and internal services (dollars)

Core Responsibilities and Internal Services	2016–17 Expenditures	2017–18 Expenditures	2018–19 Forecast spending	2019–20 Main Estimates	2019–20 Planned spending	2020–21 Planned spending	2021–22 Planned spending
Nuclear Regulation	95,726,419	102,683,841	103,611,848	100,803,165	107,748,059	108,436,742	109,458,451
<b>Subtotal</b>	95,726,419	102,683,841	103,611,848	100,803,165	107,748,059	108,436,742	109,458,451
Internal Services	41,399,611	47,109,464	51,020,132	43,842,009	48,511,367	48,593,906	49,275,788
<b>Total</b>	137,126,030	149,793,305	154,631,980	144,645,174	156,259,426	157,030,648	158,734,239

The increase in actual spending from \$137.1 million in 2016–17 to \$149.8 million in 2017–18 is primarily due to salary increases for 2017–18 and retroactive salary payments covering 2014–15 to 2016–17, as a result of negotiated salary adjustments.

The CNSC's planned spending is forecasted to increase from \$149.8 million in 2017–18 to \$154.6 million in 2018–19 due to salary increases, costs relating to the replacement of the CNSC's current financial system and costs related to the continued implementation of the

workforce renewal initiative. Workforce initiatives include new-graduate hiring and the continuation of technical co-operative programs, and the implementation of a knowledge management strategy and plan.

The CNSC’s overall spending plans indicate no significant changes over the 2018–19 to 2021–22 planning period. The increases in planned spending from \$154.6 million in 2018–19, to \$156.3 million in 2019–20, to \$157.0 million in 2020–21, to \$158.7 million in 2021–22 are primarily attributable to anticipated salary increases.

The difference between the 2019–20 Main Estimates of \$144.6 million and the 2019–20 planned spending of \$156.3 million is attributed to the employee benefit costs related to personnel expenditures recovered from licensees. Fees collected by the CNSC represent approximately 70% of planned spending.

## Planned human resources

Human resources planning summary for core responsibilities and internal services (full-time equivalents)

Core responsibilities and internal services	2016–17 Actual full-time equivalents	2017–18 Actual full-time equivalents	2018–19 Forecast full-time equivalents	2019–20 Planned full-time equivalents	2020–21 Planned full-time equivalents	2021–22 Planned full-time equivalents
Nuclear regulation	576	585	631	639	635	629
<b>Subtotal</b>	576	585	631	639	635	629
Internal services	247	269	296	296	293	293
<b>Total</b>	823	854	927	935	928	922

The increase from 823 full-time equivalents (FTEs) in 2016–17 to 854 FTEs in 2017–18 was primarily attributable to the implementation of the workforce renewal initiative. The increase to 927 forecasted FTEs in 2018–19 is the result of both the continued implementation of the workforce renewal initiative, which focuses on the recruitment and development of new graduates to meet the organization’s future needs for senior regulatory and technical officers, and an expanded definition of FTEs that includes students and alumni personnel.

In addition, the FTE increases within internal services are a result of the continued replacement of information management and technology consultants with indeterminate employees, the temporary additional effort needed to replace the CNSC’s current financial and material management system, and the additional resources needed to address Phoenix pay system challenges.

## Estimates by vote

Information on the Canadian Nuclear Safety Commission's organizational appropriations is available in the [2019–20 Main Estimates](#).<sup>24</sup>

## Future-oriented condensed statement of operations

The Future-Oriented Condensed Statement of Operations provides a general overview of the Canadian Nuclear Safety Commission's operations. The forecast of financial information on expenses and revenues is prepared on an accrual accounting basis to strengthen accountability and to improve transparency and financial management. The forecast and planned spending amounts presented in other sections of the Departmental Plan are prepared on an expenditure basis; as a result, amounts may differ.

A more detailed Future-Oriented Statement of Operations and associated notes, including a reconciliation of the net cost of operations to the requested authorities, are available on the [Canadian Nuclear Safety Commission's website](#).<sup>25</sup>

Future-oriented condensed statement of operations for the year ending March 31, 2020 (dollars)

Financial information	2018–19 Forecast results	2019–20 Planned results	Difference (2019–20 planned results minus 2018–19 Forecast results)
Total expenses	169,780,000	175,514,000	5,734,000
Total revenues	119,470,000	125,496,000	6,026,000
Net cost of operations before government funding and transfers	50,310,000	50,018,000	(292,000)

The CNSC's net cost of operations is expected to decrease by \$0.3 million (0.6%) when compared with 2018–19 forecasted results. The decrease in the net cost of operations is a result of an increase in total expenses of \$5.7 million (3.4%), offset by an increase in total revenues of \$6.0 million (5.0%).

Regulatory fee revenues fund most of the CNSC expenses and the increase in total revenues is mainly a result of anticipated wage increases, an increase in regulatory oversight activities, and fee adjustments for formula fees applied to nuclear substances used for commercial and industrial purposes. The CNSC continues to phase in increases to fully recover the costs for activities associated with formula fees.



## Additional information

### Corporate information

### Organizational profile

**Appropriate minister:** Amarjeet Sohi

**Institutional head:** Rumina Velshi

**Ministerial portfolio:** [Natural Resources Canada](#)<sup>26</sup>

**Enabling instrument:** [Nuclear Safety and Control Act](#)<sup>27</sup>

**Year of incorporation / commencement:** 2000

**Other:** The CNSC’s headquarters are located in Ottawa, Ontario. The CNSC maintains 11 regional offices, both at major facilities and elsewhere, in order to conduct inspections of licensees across the country on a regular basis.

### Raison d’être, mandate and role: Who we are and what we do

“Raison d’être, mandate and role: Who we are and what we do” is available on the [Canadian Nuclear Safety Commission’s website](#).

### Reporting framework

The Canadian Nuclear Safety Commission’s departmental results framework and program inventory of record for 2019–20 are shown below.

<b>Departmental Results Framework</b>	<b>Nuclear Regulation</b>				Internal Services
	<b>The environment is protected from releases from nuclear facilities and activities</b>				
	Number of instances of radiological releases that exceeded regulatory limits				
	Number of instances of hazardous releases that exceeded regulatory limits				
	Percentage of Independent Environmental Monitoring Program (IEMP) samples (food, water, air, and vegetation) that met guidelines				
<b>Canadians are protected from radiation resulting from nuclear facilities and activities</b>					
Number of radiation doses to members of the public that exceeded regulatory limits					
Number of radiation doses to workers that exceeded regulatory limits					
<b>Nuclear material and substances, facilities and activities are secure and used for peaceful purposes</b>					
Number of instances of non-peaceful or malicious use of Canadian exports of nuclear substances, equipment and information					
Number of lost or stolen radioactive sealed sources					
Canada’s international commitments to the International Atomic Energy Agency (IAEA) with respect to nuclear safeguards and verification are met					
<b>Canadians, including Indigenous Peoples, have meaningful information about, and the opportunity to participate in, the nuclear regulatory process</b>					
Percentage of CNSC proceedings that were accessible to members of the public and Indigenous peoples					
Percentage of CNSC proceedings for which the Participant Funding Program (PFP) was made available to members of the public and Indigenous peoples					
Percentage of public proceedings documents that were available in a timely manner upon request by members of the public and Indigenous peoples					
Number of Indigenous peoples who participated in CNSC proceedings					
<b>Program Inventory</b>					
Nuclear Fuel Cycle	Nuclear Reactors	Nuclear Substances and Prescribed Equipment	Nuclear Non-Proliferation	Scientific, Regulatory and Public Information	

## Supporting information on the program inventory

Supporting information on planned expenditures, human resources, and results related to the Canadian Nuclear Safety Commission's program inventory is available in the [GC InfoBase](#).<sup>28</sup>

## Supplementary information tables

The following supplementary information tables are available on the [Canadian Nuclear Safety Commission's website](#):

- ▶ Departmental sustainable development strategy
- ▶ Disclosure of transfer payment programs under \$5 million
- ▶ Gender-based analysis plus

## Federal tax expenditures

The tax system can be used to achieve public policy objectives through the application of special measures such as low tax rates, exemptions, deductions, deferrals and credits. The Department of Finance Canada publishes cost estimates and projections for these measures each year in the [Report on Federal Tax Expenditures](#).<sup>29</sup> This report also provides detailed background information on tax expenditures, including descriptions, objectives, historical information and references to related federal spending programs, as well as evaluations, research papers and gender-based analysis. The tax measures presented in this report are the responsibility of the Minister of Finance.

## Organizational contact information

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Website: [www.nuclearsafety.gc.ca](http://www.nuclearsafety.gc.ca)<sup>30</sup>



## Appendix: Definitions

### **appropriation (crédit)**

Any authority of Parliament to pay money out of the Consolidated Revenue Fund.

### **budgetary expenditures (dépenses budgétaires)**

Operating and capital expenditures; transfer payments to other levels of government, organizations or individuals; and payments to Crown corporations.

### **core responsibility (responsabilité essentielle)**

An enduring function or role performed by a department. The intentions of the department with respect to a core responsibility are reflected in one or more related departmental results that the department seeks to contribute to or influence.

### **departmental plan (plan ministériel)**

A report on the plans and expected performance of an appropriated department over a three-year period. Departmental Plans are tabled in Parliament each spring.

### **departmental result (résultat ministériel)**

Any change that the department seeks to influence. A departmental result is often outside departments' immediate control, but it should be influenced by program-level outcomes.

### **departmental result indicator (indicateur de résultat ministériel)**

A factor or variable that provides a valid and reliable means to measure or describe progress on a departmental result.

### **departmental results framework (cadre ministériel des résultats)**

The department's core responsibilities, departmental results and departmental result indicators.

### **departmental results report (rapport sur les résultats ministériels)**

A report on the actual accomplishments against the plans, priorities and expected results set out in the corresponding departmental plan.

### **evaluation (évaluation)**

In the Government of Canada, the systematic and neutral collection and analysis of evidence to judge merit, worth or value. Evaluation informs decision making, improvements, innovation and accountability. Evaluations typically focus on programs, policies and priorities and examine questions related to relevance, effectiveness and efficiency. Depending on user needs, however, evaluations can also examine other units, themes and issues, including alternatives to existing interventions. Evaluations generally employ social science research methods.

**experimentation (expérimentation)**

Activities that seek to explore, test and compare the effects and impacts of policies, interventions and approaches, to inform evidence-based decision-making, by learning what works and what does not.

**full-time equivalent (équivalent temps plein)**

A measure of the extent to which an employee represents a full person-year charge against a departmental budget. Full-time equivalents are calculated as a ratio of assigned hours of work to scheduled hours of work. Scheduled hours of work are set out in collective agreements.

**gender-based analysis plus (GBA+) (analyse comparative entre les sexes plus [ACS+])**

An analytical process used to help identify the potential impacts of policies, Programs and services on diverse groups of women, men and gender-diverse people. The “plus” acknowledges that GBA goes beyond sex and gender differences. We all have multiple identity factors that intersect to make us who we are; GBA+ considers many other identity factors, such as race, ethnicity, religion, age, and mental or physical disability.

**government-wide priorities (priorités pangouvernementales)**

For the purpose of the 2019–20 Departmental Plan, government-wide priorities refers to those high-level themes outlining the government’s agenda in the 2015 Speech from the Throne, namely: growth for the middle class; open and transparent government; a clean environment and a strong economy; diversity is Canada's strength; and security and opportunity.

**horizontal initiative (initiative horizontale)**

An initiative where two or more departments are given funding to pursue a shared outcome, often linked to a government priority.

**non-budgetary expenditures (dépenses non budgétaires)**

Net outlays and receipts related to loans, investments and advances, which change the composition of the financial assets of the Government of Canada.

**performance (rendement)**

What an organization did with its resources to achieve its results, how well those results compare to what the organization intended to achieve, and how well lessons learned have been identified.

**performance indicator (indicateur de rendement)**

A qualitative or quantitative means of measuring an output or outcome, with the intention of gauging the performance of an organization, Program, policy or initiative respecting expected results.

**performance information profile (profil de l'information sur le rendement)**

The document that identifies the performance information for each program from the program inventory.

**performance reporting (production de rapports sur le rendement)**

The process of communicating evidence-based performance information. Performance reporting supports decision making, accountability and transparency.

**plan (plan)**

The articulation of strategic choices, which provides information on how an organization intends to achieve its priorities and associated results. Generally a plan will explain the logic behind the strategies chosen and tend to focus on actions that lead up to the expected result.

**planned spending (dépenses prévues)**

For departmental plans and departmental results reports, planned spending refers to those amounts presented in the Main Estimates.

A department is expected to be aware of the authorities that it has sought and received. The determination of planned spending is a departmental responsibility, and departments must be able to defend the expenditure and accrual numbers presented in their departmental plans and departmental results reports.

**priority (priorité)**

A plan or project that an organization has chosen to focus and report on during the planning period. Priorities represent the things that are most important or what must be done first to support the achievement of the desired departmental results.

**Program (programme)**

Individual or groups of services, activities or combinations thereof that are managed together within the department and focus on a specific set of outputs, outcomes or service levels.

**Program Inventory (répertoire des programmes)**

Identifies all of the department's programs and describes how resources are organized to contribute to the department's core responsibilities and results.

**result (résultat)**

An external consequence attributed, in part, to an organization, policy, program or initiative. Results are not within the control of a single organization, policy, program or initiative; instead they are within the area of the organization's influence.

**statutory expenditures (dépenses législatives)**

Expenditures that Parliament has approved through legislation other than appropriation acts. The legislation sets out the purpose of the expenditures and the terms and conditions under which they may be made.

**sunset program (programme temporisé)**

A time-limited program that does not have an ongoing funding and policy authority. When the program is set to expire, a decision must be made whether to continue the program. In the case of a renewal, the decision specifies the scope, funding level and duration.

**target (cible)**

A measurable performance or success level that an organization, Program or initiative plans to achieve within a specified time period. Targets can be either quantitative or qualitative.

**voted expenditures (dépenses votées)**

Expenditures that Parliament approves annually through an Appropriation Act. The Vote wording becomes the governing conditions under which these expenditures may be made.

## Endnotes

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