

II. The Canadian Nuclear Safety Commission

Overview

Mission and Vision

It is the CNSC's mission to regulate the use of nuclear energy and materials to protect health, safety, security, and the environment and to respect Canada's international commitments on the peaceful use of nuclear energy. In pursuing its mission, the CNSC¹ is working toward its vision of becoming one of the best nuclear regulators in the world.

To realize its vision, the CNSC is committed to:

- ensuring the effectiveness of its regulatory regime
- operating with a high level of transparency
- attracting and retaining excellent staff
- maintaining efficiency of its regulatory regime

Governance and Regulatory Program Delivery at the CNSC

The CNSC is an independent quasi-judicial administrative tribunal, created in May 2000 when the *Nuclear Safety and Control Act* (NSCA) came into force. As an independent regulatory body, the CNSC considers it crucial to preserve public confidence and trust in the fairness of the regulatory decision-making process. Maintaining an arm's-length relationship to government and industry is a critical element to sustain that confidence. The CNSC is a departmental corporation under Schedule II of the *Financial Administration Act*. It is a separate agency under the *Public Service*

Labour Relations Act and has the corresponding powers and functions with respect to its human resources management.

The CNSC reports to Parliament through the Minister of Natural Resources (NRCan). The Minister is answerable in general to Parliament for the activities of the agency, but the President and Chief Executive Officer (CEO) of the CNSC is accountable to Parliament and the public for the exercise of her powers. As such, the President and CEO of the CNSC can be called upon to appear before parliamentary committees to account for the performance of the CNSC in achieving its objectives and plans, to answer questions on spending and administrative matters, and to address specific issues.

Financial and operational plans and performance are detailed in an *Annual Report*, a *Report on Plans and Priorities* and a *Departmental Performance Report* that are submitted each year to the Minister for tabling in the House of Commons. All information held by the CNSC, including information submitted in support of licence applications and compliance-related reports, is available to the public upon request, with the exception of security-sensitive, commercially confidential and personal information. The policy of the CNSC is to be transparent on regulatory matters so that Canadians do not need to use the formal access-to-information process to obtain information. The CNSC adheres

¹ Note: The Canadian Nuclear Safety Commission is referred to as the "CNSC" when referring to the organization and its staff in general, and as the "Commission" when referring to the tribunal component.

to the government policy of disclosure on contracts, travel and other expenses for senior management, reclassifications of personnel, grants and contributions, and audit reports by the internal audit and ethics group.

The separation of the Commission (the tribunal)—whose members are appointed by the Governor-in-Council—from the CNSC staff is an element of the tribunal's independence in making licensing and related decisions. The Commission sets overall regulatory policy, establishes regulations as required, and decides on major licence applications, renewals and related questions. With respect to public hearings, interested stakeholders and intervenors are invited to make their views known to the Commission either in person or through written submissions. All decisions, and the reasons for those decisions, are published. The CNSC's staff provides advice to the tribunal, implements decisions made by the tribunal, and enforces compliance with regulatory requirements.

The CNSC's Regulatory Fundamentals Policy (P-299) states that persons and organizations subject to the *Nuclear Safety and Control Act* (NSCA) and regulations are directly responsible for managing regulated activities in a manner that protects health, safety, security, and the environment, while respecting Canada's international obligations.

The CNSC regulates the use of nuclear energy and nuclear materials in Canada. Its regulations apply to the following areas:

- Nuclear power reactors
- Non-power reactors
- Nuclear substances and radiation devices used in areas such as health care and research
- Nuclear fuel cycle, from uranium mining through to waste management
- Imports and exports of controlled nuclear materials, dual-use materials, equipment and technology

On behalf of the Government of Canada, the CNSC also currently administers the *Nuclear Liability Act* (NLA). The CNSC designates nuclear installations and sets the nuclear insurance requirements to be carried by the operators of such nuclear installations. The CNSC receives premiums paid by the operators for supplementary insurance coverage, and credits these premiums to the Nuclear Liability Reinsurance Account in the Consolidated Revenue Fund.

Funding of CNSC Operations

The CNSC's operations are funded through an annual appropriation from Parliament. The CNSC's workload, and therefore its resource requirements, are largely driven by the level of demand for licensing and oversight, and by the nature of Canada's international commitments.

The CNSC applies to the Treasury Board for permission to increase its cost recoverable expenditures and related fee revenues accordingly, and/or to receive new program funding when workloads increase.

Most costs incurred for the CNSC's regulatory activities are recovered by the federal government from licensees under the *Canadian Nuclear Safety Commission Cost Recovery Fees Regulations* (2003). Fees are collected by the CNSC and deposited to the Consolidated Revenue Fund and are not a source of revenue for the CNSC. Some licensees, such as hospitals and universities, are exempt from paying fees.

Fees are not charged for activities that result from CNSC obligations and that do not provide a direct benefit to identifiable licensees. This includes activities concerning Canada's international obligations, including the non-proliferation of nuclear weapons, public responsibilities such as emergency preparedness and public information programs, and maintenance of the NSCA and associated regulations.

The CNSC recovers approximately 62 percent of its total cost of operations. External charging information for the CNSC's Cost Recovery Program is available in the Financial Statements on page 52.

Additional Funding Resources Received for 2005-2006

As a result of growing activity in all areas of the nuclear sector, the CNSC has experienced a substantial increase in its workload in most areas of responsibility. The workload is forecast to continue to increase over the course of the next 10 years. In 2005-2006, the CNSC received approval for \$6.5 million in 2005-2006 and \$13.7 million in 2006-2007 to address immediate resource shortfalls. The CNSC is seeking additional, longer-term funding to enable it to meet continuously increasing workload pressures.²

The CNSC allocated funding to a strategic recruitment campaign targeted towards scientific candidates. Specialized scientific talent is in limited supply, and the CNSC is competing with a growing nuclear industry to attract the same candidates. In 2005-2006, approximately 40 staff members were hired, and recruitment efforts will continue in 2006-2007. In addition, the CNSC acquired additional accommodations for new staff support services, which were expanded to allow operational programs to function effectively.

The CNSC and Canada's Performance

The Treasury Board of Canada's annual report, *Canada's Performance 2005*, provides a government-wide statement of Canada's performance in three policy areas:

- **Sustainable economy:** The Government of Canada has chosen to include a clean and healthy environment as one of several measures of a sustainable economy. The CNSC regulates the use of nuclear energy, material and substances in an effective and efficient manner to ensure businesses and institutions may only be licensed and therefore operate if they maintain a clean and healthy environment. As an independent regulatory body, the CNSC does not take commercial considerations into account in the implementation of the nuclear regulatory regime.
- **Canada's social foundations:** This policy area includes health care and safe and secure communities. Regulatory work in the fields of nuclear medicine, radiation therapy, radioisotopes and cancer treatment facilities plays an integral part in access to quality health care, and thereby contributes to the health of Canadians. The CNSC's work in emergency management and public security contributes to ensuring safe and secure communities in Canada.
- **Canada's place in the world:** Finally, the CNSC plays a significant role in providing expertise and perspective on the international stage, and contributes to Canada's efforts to build a safe and secure world. This includes safeguards-related activities to verify that nuclear energy and nuclear material in Canada are used solely for peaceful purposes, as well as work with multilateral nuclear export control organizations and bilateral partners to assure that Canada's nuclear exports are not misused. CNSC's international role includes the development and advancement of international standards on nuclear safety, radiation protection, waste management, transportation and security.

²Subsequent to year-end, the Government of Canada allocated \$93 million in additional funding for the next five years in its May 2006 Budget Papers.

Challenges and Risks

In 2005, the CNSC updated its annual, comprehensive review of pressures and risks it will have to address in the future. Licensees contribute to this review on a commercially confidential basis. The review confirmed that the Canadian nuclear industry is experiencing significant growth in all segments of the nuclear cycle and in virtually all areas where nuclear substances are used in industry, medicine and research. The CNSC continues to monitor change in its operating context to ensure an ongoing effective and timely regulatory regime.

a. Life-extension of nuclear reactors

Canada has 22 nuclear power reactors, many of which are approaching the end of their designated operating lives. In July 2005, New Brunswick announced approval for investment in life-extension of the Point Lepreau reactor. The Ontario government announced in October 2005 an agreement with Bruce Power Inc. to proceed with refurbishment and return to operation of two units at the Bruce A site. Potential decisions to proceed with life-extension programs or shutdown and decommissioning for other power reactors in Ontario and Quebec will be made over the next few years.

In addition, Atomic Energy of Canada Limited has applied to the CNSC to permit the continued operation of the National Research Universal (NRU) reactor at the Chalk River Laboratories until 2012.

b. Plans for building new power reactors

There has been a significant shift in the outlook of governments and nuclear operators in 2005-2006 to include the potential building of new power reactors. Factors cited in the Ontario Power Authority's December 2005 report to the government of Ontario include increased electricity demands in Ontario due to economic growth, and plans to shut down the province's coal-fired power plants by 2009. The report recommends that planning begin for the construction of new nuclear generating capacity. A decision by the government

of Ontario to proceed with this recommendation would result in the first new nuclear power development in decades. The CNSC has no opinion on the choice of nuclear power, nor does it provide input into the nuclear technology that could be chosen. However, any newly built reactors would require extensive environmental assessment and licensing reviews before the Commission could proceed with licensing of site preparation, construction and operation. The CNSC would be required to update its regulations and standards for nuclear power plants, taking into account modern international standards. (More details of the CNSC's environmental assessment process are provided on page 5 in the Annual Report of the Commission Tribunal on the reverse side of this document, and more information on the licensing process for new nuclear power plants is available on page 20.)

c. Nuclear medicine, radiation therapy, nuclear substances and radiation devices

Licensing and compliance activities associated with the regulation of nuclear substances, radiation devices, prescribed equipment and Class II nuclear facilities (where prescribed equipment is used for medical, industrial and research purposes) have increased substantially. The number of licences issued for Class II nuclear facilities (principally cancer treatment facilities) has grown 86%, from 153 to 285, in the five-year period of 2000 to 2005. The number of such licensed facilities is forecast to total at least 500 by the year 2015. In addition to the licensing and compliance work associated with the construction of new facilities, the CNSC needs to license the refurbishment of existing cancer treatment facilities as well.

d. Uranium mines, mills and processing facilities

Increased demand for uranium has been triggered by the construction of new nuclear power plants in Asia, improved reactor operations throughout the world, and the extension of the operating lives of reactors. Canada produces 30% of the world's uranium, of which 80% is exported. To meet demand, licensees are accelerating production from existing mines, exploiting lower-grade ore bodies and developing smaller deposits of ore previously deemed to be uneconomical, and exploring for new sources of uranium throughout Canada. Any new mining will involve CNSC approvals, amendments and/or the issuance of new licences by the Commission and, depending on the scope of the proposal, some projects may require environmental assessments.

e. Nuclear waste management

Both industry and government are moving forward with a number of initiatives to address nuclear waste management issues, as a result of domestic and international pressures to ensure that nuclear waste is handled effectively and expeditiously. In addition, the nuclear power industry is developing projects to expand its waste storage facilities to accommodate the increased volumes of nuclear waste associated with ongoing operations and reactor life-extension projects.

The permanent disposal of nuclear waste has become a priority. Ontario Power Generation (OPG) and the Municipality of Kincardine, Ontario recently entered into a "hosting agreement" for the permanent disposal of low and intermediate radioactive waste in a deep geological waste repository on Bruce Power's Bruce A nuclear site. The CNSC has received a letter of intent from OPG to file an application with the Commission to licence this permanent radioactive waste disposal site. In addition, the Nuclear Waste Management Organization (NWMO) recently submitted its report to the Minister of Natural Resources on options and recommendations with respect to the long-term storage or disposal of spent nuclear fuel. The CNSC may be requested to comment on the regulatory implications of the proposals, and will be responsible for regulating any facilities designed and constructed for long-term spent fuel storage or disposal.

f. Nuclear Security and Emergency Management

National security and emergency management remain priorities. The CNSC continuously verifies, through its regulatory compliance program, that licensees maintain enhanced security measures. Nuclear security programs include policies that regulate the physical security of nuclear power plants and nuclear facilities licensed to process nuclear substances (e.g. research facilities). Also regulated is the security of high-risk nuclear substances and materials, performance testing, personnel security clearance of the armed response forces and participation in international nuclear security initiatives. The CNSC is working closely with officials of other agencies in Canada, the United States and the international community to be an effective partner in intelligence gathering and analysis, and in maintaining the worldwide nuclear security network and appropriate emergency management plans to deal with unexpected events involving high-risk radioactive sources.

One of the new critical nuclear security issues is protection against the diversion of nuclear material and radioactive sources for unauthorized or malicious acts. International expectations in this area are set out in the new IAEA *Code of Conduct on the Safety and Security of Radioactive Sources* (the Code) which Canada has committed to implement.

g. International Safeguards

The principal challenge for the CNSC in this area is to ensure that regulatory oversight of domestic nuclear materials and activities is effective so as to assure Canadians and international agencies and partners that all nuclear material is adequately accounted for in Canada. The goal is to have an effective national safeguards program that focuses on regulatory compliance with domestic requirements for nuclear material control, and which also complements the CNSC's efforts to discharge its responsibilities for implementing the safeguards agreements between Canada and the IAEA. In recent years, there has been a significant increase in verification efforts undertaken in Canada by the IAEA as a result of growing international attention on the detection of undeclared nuclear material and activities. In addition, new demands were placed upon Canada and the CNSC concerning the broader scope of nuclear materials and facilities that must be declared to the IAEA. These demands will intensify because there are more facilities and more nuclear material coming under IAEA safeguards in Canada.

h. Public hearings and stakeholder consultation

As governments and licensees make decisions related to nuclear power plant life-extensions, investments in new nuclear plants, and waste management, the CNSC expects heightened public interest in nuclear matters. The expansion in all regulated sectors of the nuclear industry is driving the need for more frequent Commission hearings. Citizens are requesting that more hearings be conducted in the communities most affected by the licensing decision. There are also requests for easier and faster access to information related to matters before the Commission.

i. Staffing requirements to meet the increased workload

One of the CNSC's most critical challenges is to ensure it has an adequate number of staff, with the appropriate mix of scientific, technical and other professional knowledge, skills and experience. With the growth in nuclear sector activity creating a rise in industry demand for the same skilled resources, the CNSC is facing increasing challenges to attract and retain the requisite expertise to achieve its mandate in a timely manner.

2005-2006 Performance Summary

The CNSC uses a strategic framework for planning, monitoring and reporting (see Section IV). Plans for future years are articulated in the CNSC's annual Report on Plans and Priorities (RPP). The plans for this reporting year were outlined in the 2005-2006 RPP.

The CNSC's reporting of its performance against its plans is structured in terms of the following five immediate outcomes:

1. A clear and pragmatic regulatory framework
2. Individuals and organizations that operate safely and conform to safeguards and non-proliferation requirements

3. High levels of compliance with the regulatory framework

4. CNSC cooperates and integrates its activities in national/international nuclear fora

5. Stakeholders' understanding of the regulatory program

Underlying the CNSC's strategic framework is its management and enabling infrastructure. This infrastructure consists of management, human resources, finance, and information services processes and infrastructure programs that enable the CNSC to perform the necessary activities to meet the requirements of good governance with a high level of accountability.

For 2005-2006, the CNSC planned its expenditures for each immediate outcome.

The following table shows a comparison of actual expenditures incurred against planned spending.

Total Financial Resources (thousands of dollars)	Main Estimates	Planned Spending	Total Authorities	Actual Spending
	\$ 66,330	\$ 71,095	\$ 78,937	\$ 75,550

Total Human Resources (Full-time Equivalents (FTE))	Main Estimates	Planned Spending	Total Authorities	Actual Spending
	500.2	526.0	526.0	516.8

Outcomes 2005-2006 (thousands of dollars)	Planned Spending	Actual Spending	Planned Spending (FTE)	Planned Spending (FTE)
1. A clear and pragmatic regulatory framework	\$ 7,829	\$ 6,183	44.8	35.2
2. Individuals and organizations that operate safely and conform to safeguards and non-proliferation requirements	17,226	15,180	132.9	108.9
3. High levels of compliance with the regulatory framework	30,388	30,830	230.8	223.6
4. CNSC cooperates and integrates its activities in national/international nuclear fora	11,252	17,010	86.5	103.0
5. Stakeholders' understanding of the regulatory program	4,400	6,347	31.0	46.1
TOTALS	\$ 71,095	\$ 75,550	526.0	516.8

CNSC's Performance Report Card

The table below indicates the status of planned activities as set out in the CNSC's RPP 2005-2006. More details concerning these activities can be found on the relevant page of this report, where indicated, or by contacting the CNSC.

Status (as of March 31, 2006)

- Completed
- Partially completed
- I Initiated
- D Delayed or stopped
- > Ongoing core activity

"T" indicates that the information on the relevant plan is available in the Annual Report of the Commission Tribunal, on the reverse side of this document.

1. Immediate Outcome: A clear and pragmatic regulatory framework			
2005-2006 RPP committed Priorities:	2005-2006 RPP committed Plans:	Status	Page
A <i>Nuclear Safety and Control Act</i> (NSCA) which incorporates adequate powers to protect health and safety, security, the environment and to respect Canada's international commitments on the peaceful use of nuclear energy	Review the effectiveness of the NSCA on an ongoing basis and assess aspects for possible improvements	>	18
Regulatory strategies and regulations that are effective, aligned with national regulatory policies, consistent with Smart Regulation principles, and incorporate international recommendations where appropriate	Develop new nuclear safeguards regulations based on the requirements of the Safeguards Agreement and Additional Protocol	D	18
	Revise the following existing regulations:		
	<i>Nuclear Security Regulations</i>	•	40
	<i>Nuclear Substances and Radiation Devices Regulations</i>	•	40
	<i>Class II Nuclear Facilities and Prescribed Equipment Regulations</i>	•	40
	<i>Nuclear Non-Proliferation Import and Export Control Regulations</i>	I	40
	<i>Canadian Nuclear Safety Commission Rules of Procedure and Canadian Nuclear Safety Commission By-laws</i>	D	T
	Review on an ongoing, systematic and consultative basis, all regulations under the NSCA and regulatory practices codified in regulatory documents	>	18
An integrated and consistent set of regulatory documents (Policies, Standards, and Guides) that clarify regulatory requirements and expectations.	Develop regulatory policies, standards and guides	>	19
	Influence and adopt international standards where applicable to the Canadian context	>	19
	Strengthen the multilateral guidelines and export control lists on nuclear supply to counter contemporary nuclear proliferation threats	>	19
A modernized safeguards framework for Canada, including safeguards regulations, standards and guides as well as an enhanced CNSC role in safeguards implementation.	Enhance cooperation with the IAEA in the development and introduction of an integrated safeguards approach for Canada	>	21
Contribute to any changes to the <i>Canadian Environmental Assessment Act</i> (CEAA)	Work with the Canadian Environmental Assessment Agency on any changes which impact either the CNSC's role as a regulatory authority or its environmental planning oversight responsibilities under the NSCA	>	21

2. Immediate Outcome: Individuals and organizations that operate safely and conform to safeguards and non-proliferation requirements

2005-2006 RPP committed Priorities:	2005-2006 RPP committed Plans:	Status	Page
Improve the licensing and certification processes	Implement a consistent, risk-informed methodology for licensing across all licensing areas	•	21
	Formulate strategies for licensing of new nuclear power plants and possible waste management solutions	••	21
	Formulate an approach for the regulatory oversight of aging nuclear power facilities	•	22
	Clarify licensing and certification expectations through improved documentation of processes and clear communication with licensees	•	22
Improve the effectiveness and efficiency of the Commission Tribunal licensing process. Implement the licensing and certification processes in accordance with the CNSC's regulatory regime	Undertake an evaluation of and implement continuous improvements to the tribunal process	>	T
	Prepare, and implement after decision, licensing recommendations for Commission hearings or Designated Officer consideration	>	T
	Continue independent and transparent assessment by the Tribunal of applications for licences in accordance with the NSCA and regulations	>	T

3. Immediate Outcome: High levels of compliance with the regulatory framework

2005-2006 RPP committed Priorities:	2005-2006 RPP committed Plans:	Status	Page
Complete the implementation of risk-informed compliance strategies to guide compliance activities in all regulated sectors	Continue the implementation of a consistent, risk-informed approach for the selection of level and type of compliance verification required, with a focus on power reactor regulation	•	23
Provide regulatory assurance to Canadians of the continuing compliance and safety performance of licensees	Conduct ongoing compliance promotion, verification and enforcement activities	>	24
	Develop and implement a licensee information management system for CNSC staff to record, report and access current compliance information, inspection results and trends	D	24
	Strengthen the CNSC's safety performance rating system through more consistent application, as well as better communication of the rating basis to licensees and the Canadian public	•	24
	Finalize the development and implementation of a revised baseline compliance program for nuclear facilities which reflects the evolving nuclear context and is risk-informed	•	24
Provide regulatory assurance to international agencies that the use of nuclear material, substances and technologies in Canada complies with the Government of Canada's international commitments.	Apply the requirements of multilateral conventions and arrangements	>	25
	Exercise controls with bilateral partners using formal administrative arrangements and continue to reconcile nuclear inventories	>	25
	Implement the requirements of the Canada-IAEA <i>Safeguards Agreement</i> and <i>Additional Protocol</i> for the verification of the peaceful use of nuclear energy in Canada	>	25

4. Immediate Outcome: CNSC cooperates and integrates its activities in national/international nuclear fora			
2005-2006 RPP committed Priorities:	2005-2006 RPP committed Plans:	Status	Page
Effective, efficient and cooperative CNSC Emergency Preparedness framework and infrastructure	Maintain and continuously improve the CNSC's emergency response capacity and influence on other federal, provincial and municipal participants	>	26
Strengthen the effectiveness and improve the efficiency of the IAEA safeguards system	Provide technical support and other resources necessary to the IAEA for its safeguards program	>	27
Effective cooperation with international, federal and provincial organizations, departments and agencies	Establish and review cooperative arrangements with federal and provincial organizations, departments and agencies, and foreign nuclear regulators on an evergreen basis	>	27
	Determine, evaluate, track and report CNSC participation in international activities on nuclear-related matters	>	28

5. Immediate Outcome: Stakeholders' understanding of the regulatory program			
2005-2006 RPP committed Priorities:	2005-2006 RPP committed Plans:	Status	Page
Awareness by stakeholders of the process to become an active intervenor in the licensing process (e.g., participation in Commission Hearings)	Explore processes for Commission proceedings	>	T
Improvement in communication and consultation to build sustained, consistent relationships with key stakeholders directly affected by the CNSC's regulatory regime	Conduct a well-structured and sustainable Outreach Program	>	30
	Monitor the public environment and issues, and develop and implement proactive and reactive communications plans for external stakeholders	>	32
	Implement a strategic communications plan	•	30

Management and Enabling Infrastructure			
2005-2006 RPP committed Priorities:	2005-2006 RPP committed Plans:	Status	Page
Governance, Accountability and Stewardship	Ongoing good governance and strategic direction	>	32
	Implement a Quality Management system	>	32
	Ongoing maintenance of internal control regime	>	32
Values and Ethics	Implement a modernized Values and Ethics Program	•	33
Results and Performance	Implement an integrated information management improvement plan, including electronic records management using the required information technology tools	•	34
	Ongoing preparation and use of results and performance information to make decisions and report in a transparent and effective manner	>	34
	Establish key performance standards	••	35
	Complete implementation of a performance measurement framework including key corporate measures of performance	•	34
	Complete implementation of a risk management framework in the Corporate Services Branch	D	—
Risk Management	Ongoing strategic environmental scanning	>	32
	Strengthen leadership and management capacities	>	33
	Provide ongoing support for recruitment and retention initiatives	>	33
	Negotiate and implement the first collective agreement	>	33
	Address the needs of non-unionized employees	>	34
People			