



# Atomic Energy Control Board

## Performance Report

For the period ending  
March 31, 1999

Canada

## **Improved Reporting to Parliament Pilot Document**

The Estimates of the Government of Canada are structured in several parts. Beginning with an overview of total government spending in Part I, the documents become increasingly more specific. Part II outlines spending according to departments, agencies and programs and contains the proposed wording of the conditions governing spending which Parliament will be asked to approve.

The *Report on Plans and Priorities* provides additional detail on each department and its programs primarily in terms of more strategically oriented planning and results information with a focus on outcomes.

The *Departmental Performance Report* provides a focus on results-based accountability by reporting on accomplishments achieved against the performance expectations and results commitments as set out in the spring *Report on Plans and Priorities*.

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## Foreword

On April 24, 1997, the House of Commons passed a motion dividing on a pilot basis what was known as the annual *Part III of the Estimates* document for each department or agency into two documents, a *Report on Plans and Priorities* and a *Departmental Performance Report*.

This initiative is intended to fulfil the government's commitments to improve the expenditure management information provided to Parliament. This involves sharpening the focus on results, increasing the transparency of information and modernizing its preparation.

This year, the Fall Performance Package is comprised of 82 Departmental Performance Reports and the government's report *Managing for Results - Volumes 1 and 2*.

This *Departmental Performance Report*, covering the period ending March 31, 1999, provides a focus on results-based accountability by reporting on accomplishments achieved against the performance expectations and results commitments as set out in the department's pilot *Report on Plans and Priorities* for 1998-99. The key result commitments for all departments and agencies are also included in Volume 2 of *Managing for Results*.

Results-based management emphasizes specifying expected program results, developing meaningful indicators to demonstrate performance, perfecting the capacity to generate information and reporting on achievements in a balanced manner. Accounting and managing for results involve sustained work across government.

The government continues to refine and develop both managing for and reporting of results. The refinement comes from acquired experience as users make their information needs more precisely known. The performance reports and their use will continue to be monitored to make sure that they respond to Parliament's ongoing and evolving needs.

This report is accessible electronically from the Treasury Board Secretariat Internet site:  
<http://www.tbs-sct.gc.ca/tb/key.html>

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# **Atomic Energy Control Board**

## **Performance Report**

**For the  
period ending  
31 March 1999**

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Ralph Goodale  
Minister of Natural Resources Canada

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## Executive Summary

The Atomic Energy Control Board spent \$48.8 million in 1998-99 to provide Canadians with the assurance that the use of nuclear energy in Canada does not pose undue risk to health, safety, security and the environment and that Canadian nuclear material, equipment and technology are not contributing to the spread of nuclear weapons.

Key challenges facing the AECB include: public concern about nuclear safety and security; changes in the electrical power production industry (such as the deregulation of markets, moves toward privatization and the commercialization of the industry); implementing the *Nuclear Safety and Control Act* and regulations; ensuring that Canada's international obligations in the area of nuclear non-proliferation and safeguards are met; management and disposal of radioactive waste; the possibility of recycling of recovered nuclear weapons material and Year 2000 readiness for licensed facilities and the AECB itself.

AECB performance expectations for 1998-99 were to:

- provide Canadians with an improved legislative and regulatory framework
- provide Canadians with an enhanced regulatory process
- advance Canadian policy respecting the non-proliferation of nuclear weapons and fulfill Canada's safeguards obligations
- continue to develop a more effective and efficient organization.

Significant performance accomplishments for the reporting period included:

- the publication for stakeholder comment of the draft regulations to the *Nuclear Safety and Control Act*
- training AECB staff on the new Act
- the development and issuing of regulatory documents to help licensees, the public and other stakeholders understand and use the requirements and expectations of the AECB
- initiatives with other jurisdictions to harmonize regulatory regimes and to reduce overlap and duplication
- the continued development and improvement of regulatory control and compliance measurement and emergency preparedness
- ongoing support for national and international efforts to develop, maintain and strengthen nuclear non-proliferation and safeguards regimes
- the development and adoption of a corporate strategic plan that outlines the AECB's plans and future activities;
- the implementation of a Year 2000 readiness plan that addresses both internal systems and the readiness of licensees and provides for contingency plans.

# Atomic Energy Control Board

## Chart of Key Results Commitments

### Atomic Energy Control Board (AECB)

has a mandate

to provide Canadians with:	to be demonstrated by:	achievement reported in:
assurance that the use of nuclear energy in Canada does not pose undue risk to health, safety, security and the environment	<ul style="list-style-type: none"> <li>■ a regulatory framework</li> </ul>	DPR Section III C  AECB Web site ( <a href="http://www.aecb-ccea.gc.ca">www.aecb-ccea.gc.ca</a> )
	<ul style="list-style-type: none"> <li>■ high levels of compliance in regulated activities</li> </ul>	DPR Section III C
	<ul style="list-style-type: none"> <li>■ low frequency of safety-significant events</li> </ul>	DPR Section III C
	<ul style="list-style-type: none"> <li>■ low levels of radiation exposure to humans and the environment</li> </ul>	DPR Section III C
	<ul style="list-style-type: none"> <li>■ public confidence in the AECB</li> </ul>	DPR Section III C
assurance that Canadian nuclear material, equipment and technology are not contributing to the spread of nuclear weapons	<ul style="list-style-type: none"> <li>■ control of import and export operations</li> </ul>	DPR Section III C
	<ul style="list-style-type: none"> <li>■ support of international efforts to develop, maintain and strengthen the nuclear non-proliferation regime</li> </ul>	DPR Section III C

## **Section I: Message from the President**

I am pleased to present to Parliament and the Canadian public the third Atomic Energy Control Board Performance Report. This report outlines the significant achievements and results accomplished in 1998-99 by the AECB in support of its mission to provide Canadians with the assurance that the use of nuclear energy in Canada does not pose undue risk to health, safety, security and the environment or contribute to the spread of nuclear weapons.

During 1998-99, the Atomic Energy Control Board developed and adopted a corporate strategic plan to provide the direction and focus required to carry out our mandate over the next few years. The strategic plan provides for essential changes in our operation and culture that will position us for the challenges we face in the new millennium. We expect the *Nuclear Safety and Control Act* to be proclaimed in 2000 and therefore, we will continue to focus on improvements to our regulatory framework to ensure effective implementation of the new legislation. The strategic plan also highlights the actions being taken to revitalize our management and leadership culture. Improved internal and external communications will be equally important. Activities in this area focus on improving communications with other government agencies, with our licensees, with the general public and internal to the organization.

The adoption of a strategic plan, including "back to basics" directions will reform and improve the organization, thus strengthening it to fulfil its mandate and deal with external pressures and challenges. In 1998-99, there was an emphasis on the approaching turn of the millennium and the potential impact of the Year 2000 (Y2K) computer date problem on the safe operation of nuclear industry. As well as working with our licensees to ensure that action was being taken to address this problem, the AECB recognized the need to share information with our regulatory counterparts in other countries. Accordingly, the AECB hosted a three-day international workshop in Ottawa concerning the impact of Y2K on the nuclear industry, sponsored by Nuclear Energy Agency of the Organisation for Economic Cooperation and Development. The workshop allowed regulators and operators from around the world to explore the response to the Y2K issue and plans for the future.

Another issue of concern to the international nuclear community is the development of workable measures that will allow for the evaluation of how regulatory requirements contribute to the reduction of risks posed by the uses of nuclear energy. The AECB is working with our international counterparts to define and develop measurements that can be widely applied and that have tangible results. We have made a commitment to develop and implement a series of performance measures that will allow Canadians to evaluate how the agency contributes to minimizing the risks posed by the regulated nuclear industry.



In anticipation of the changes to the AECB under the *Nuclear Safety and Control Act*, this reporting period has been a time of preparation and transition. Internal reforms and changes to the organization have meant that when the AECB becomes the Canadian Nuclear Safety Commission, it will have a strong corporate foundation on which to build. The ongoing process of strengthening the regulatory framework and meeting our international obligations means that we will be able to better implement the new Act, monitor and enforce compliance from our licensees and continue to ensure that the use of nuclear energy does not pose an undue risk to Canadians' health, safety, security and the environment or contribute to the spread of nuclear weapons.

Agnes J. Bishop, M.D.

## **Section II: Departmental Overview**

### **A. Mandate and Mission**

Established in 1946 by the *Atomic Energy Control Act*, the Atomic Energy Control Board is a departmental corporation, named in Schedule II of the *Financial Administration Act*.

The mission of the AECB is to ensure that the use of nuclear energy in Canada does not pose undue risk to health, safety, security and the environment. The AECB achieves its mission through a comprehensive regulatory system that covers all aspects of nuclear facilities, prescribed substances and equipment, including packages used in domestic and international transport. Concerns and responsibilities of other federal government departments and provincial governments in such areas as health, the environment, transport and labour are considered in the administration of this regulatory system.

The AECB mission extends, as well, to fulfilling Canada's domestic and international obligations pursuant to the Treaty on the Non-Proliferation of Nuclear Weapons including the implementation of International Atomic Energy Agency safeguards and the control of the import and export of prescribed substances, equipment and technology.

Finally, the AECB contributes to international agencies and, through co-operation agreements, assists other countries in improving regulatory control of nuclear materials and facilities.

### **B. Operating Environment**

The Atomic Energy Control Board is an independent agency of the Government of Canada, reporting to Parliament through the Minister of Natural Resources Canada. Wherever possible, the AECB works closely with other federal departments and provincial agencies to minimize duplication and ease the regulatory burden. For example, because the effects of nuclear activities may impinge on aspects of safety and the environment that normally are regarded as the responsibility of other government agencies or organizations, the AECB uses a "joint regulatory process" whereby most licence submissions are referred to and discussed with other regulatory bodies. The AECB consequently is able to take into account the points of view and requirements of other agencies in its decisions about facilities or licences, resulting in higher quality decisions and overall administrative efficiencies.

Organizations that produce, obtain or use nuclear energy or facilities, whether for medical, research, manufacturing, or electrical power production purposes, must obtain licences from the Atomic Energy Control Board. Increasingly, the AECB attempts to work with these and other stakeholders to build solid working relationships that will improve safety and enhance compliance, while facilitating the regulatory process. The ongoing production of regulatory guides for licensees is just one example of this co-operation. These documents, designed to help licensees better understand regulatory requirements and the related AECB expectations, are developed in consultation with licensees, the public and other stakeholders. The result is a higher quality work tool that can help reduce implementation costs for licensees and for the AECB while serving to inform all stakeholders of regulatory expectations.

Through its regulatory system, the AECB serves all Canadians by minimizing the likelihood that workers, the public and the environment are exposed to unacceptable levels of radiation and the radioactive or hazardous materials associated with nuclear technology. It is this essential public good or benefit to which all AECB efforts ultimately are directed.

## **1. Objectives**

The objective of the AECB program, as stated in the Government of Canada's *Main Estimates* (Part II), is to ensure that nuclear energy in Canada is only used with due regard to health, safety, security and the environment, and to support Canada's participation in international measures to prevent the proliferation of nuclear weapons.

## **2. Strategic Priorities**

The AECB's strategic priorities and initiatives for the period ending March 31, 1999 focused on:

### *Regulatory Effectiveness and Efficiency*

- improving the regulatory process in order to ensure the safe operation of all segments of the nuclear industry
- assisting with the safety assessment of potential exports of Canadian nuclear technology
- establishing a sound legislative basis for the regulation of nuclear energy in Canada
- maintaining support for Canadian policy on the non-proliferation of nuclear weapons, and implementing the obligations undertaken by Canada

in its agreement with the International Atomic Energy Agency for the application of safeguards in Canada

- improving the institution's regulatory and management practices
- reducing overlap and duplication with other federal and provincial agencies and departments

#### *Openness and Accountability*

- continuing to improve the openness of the regulatory process, ensuring that it is easily accessible to all Canadians;
- continue to provide comprehensive information and explanation of the AECB's role, regulatory functions and performance.

### **3. Challenges**

A number of key external challenges currently face the AECB and are significantly influencing its operations. It is expected that these issues will continue to have a considerable impact on plans and priorities. These challenges include:

- *Public concern about nuclear safety and security*

With public and media scrutiny of the operations and maintenance of domestic nuclear power reactors, international debate over the role of nuclear energy in meeting electricity requirements in an environmentally responsible manner, and the development of clandestine nuclear programs in some foreign countries, public concern about nuclear issues continues. By extension, the competence of existing regulatory bodies has been questioned. The challenge to the AECB is to continue to strengthen the regulatory regime in an ever-changing context and to reassure Canadians that their interests are being protected. To achieve the latter, the AECB must involve citizens in meaningful ways in the regulatory process and more effectively communicate information about the decisions it makes.

- *Upheaval in the electrical power production industry*

Deregulation of electricity markets, moves toward privatization and management difficulties at some electricity producers continue to have a profound impact on the electricity production industry and as a result, to have an effect on the AECB. The challenge is to ensure that operators of nuclear power plants comply with the regulatory regime set out by the

AECB and that increased competition created by commercial deregulation does not lead to decreased resources for safety issues or less conservative safety decisions.

- *Implementing new legislation*

The *Nuclear Safety and Control Act*, passed in 1997 and expected to be proclaimed in 2000, provides the necessary legislative foundation for effective regulation of nuclear facilities in the new millennium. As such, the legislation has been eagerly welcomed by the AECB, specifically for the opportunity it offers to reinforce the nuclear regulatory system and further protect the safety of Canadians. The new responsibilities and obligations imposed by the legislation nevertheless represent a significant challenge to the AECB. The legislation and its associated regulations will require the development of additional documentation and guidance for licensees, ongoing training for staff and the establishment of appropriate arrangements with the other agencies and stakeholders that assist in fulfilling regulatory responsibilities.

- *Canada's international obligations in the area of nuclear safeguards*

In September 1998, Canada signed the "Additional Protocol to Safeguards Agreements," an international agreement providing the International Atomic Energy Agency (IAEA) with a strengthened mandate to search for undeclared nuclear material and activities. Implementing the measures of this agreement will have a direct impact on the AECB which must establish a regulatory framework that will provide assurance that the domestic nuclear industry meets the obligations undertaken by Canada.

- *Management and disposal of radioactive waste*

In accordance with Natural Resources Canada's Radioactive Waste Policy Framework of 1996, the burden of obligation for the use of nuclear energy must rest with the licensee. The framework states that the public should not bear the risk or the costs of the use of nuclear energy now or in the future -- this is the principle of "polluter pays". Ensuring that appropriate waste management and decommissioning plans are in place continues to be a significant challenge to the AECB, especially in the context of deregulation and privatization initiatives in the nuclear industry. In particular, the management of used nuclear fuel is expected to remain a sensitive issue of ongoing concern to the public.

- *Recycling nuclear weapons materials (MOX)*

In 1996, the Government of Canada agreed, in principle, to use mixed oxide (MOX) fuel from American and Russian weapons-origin plutonium in Canadian-based CANDU reactors if it met all regulatory requirements and was commercially viable. It is anticipated that, within the next year, Atomic Energy of Canada Limited (AECL) will import small amounts of MOX fuel for testing at its Chalk River Laboratory. The AECB is responsible for verifying that such testing meets the requirements of the *Atomic Energy Control Act*, regulations and licence conditions.

If Canada is asked to consider participation in a full CANDU MOX project, the project would have to meet all applicable federal and provincial health, safety, transport and environmental assessment and protection requirements, including the opportunity for public participation through *Canadian Environmental Assessment Act* and AECB licensing processes.

- *Year 2000 Readiness*

The Atomic Energy Control Board (AECB) has undertaken a number of steps to ensure that licensees address the Year 2000 computer date issue. The AECB imposed a June 30, 1999, deadline on its licensees to report formally on their susceptibility to Y2K problems and provide assurances that all systems are ready for continued operation into the Year 2000. It is anticipated that licensees will be able to provide necessary assurances by that date.

The AECB does not have any internal systems which the public, licensees, or other government organizations directly depend upon or interact with. However, the AECB does have systems that are not Y2K compliant that could affect internal operations and consequently have an impact on efficient program delivery. These systems have been identified and it is anticipated that all necessary actions will be completed by October 1999. In addition, the AECB will have a detailed contingency plan developed by that date aimed at maintaining AECB-critical functions through the millennium transition.

## C. Departmental Organization

The AECB program has one business line -- administration of the *Atomic Energy Control Act* and participation in measures for international control of atomic energy. The Board itself consists of five members, the President being the only full-time member. The President also is the Chief Executive Officer of the AECB and, as such, supervises and directs the work of the organization. Through the President, the Board receives advice from two independent committees composed of external technical experts: the Advisory Committee on Radiological Protection and the Advisory Committee on Nuclear Safety. Advice is also provided by the Department of Justice through a Legal Services Unit at the AECB, by a Medical Liaison Officer, and by the AECB Group of Medical Advisers, composed of senior medical professionals nominated by the provinces, Atomic Energy of Canada Limited, the Department of National Defence and Health Canada.

The Audit and Evaluation Group which is responsible for examining corporate management accountability and program performance issues, and for making recommendations for improvement, reports directly to the President.

AECB staff implement the policies of the Board and make recommendations on licensing matters. Staff are organized in five directorates.

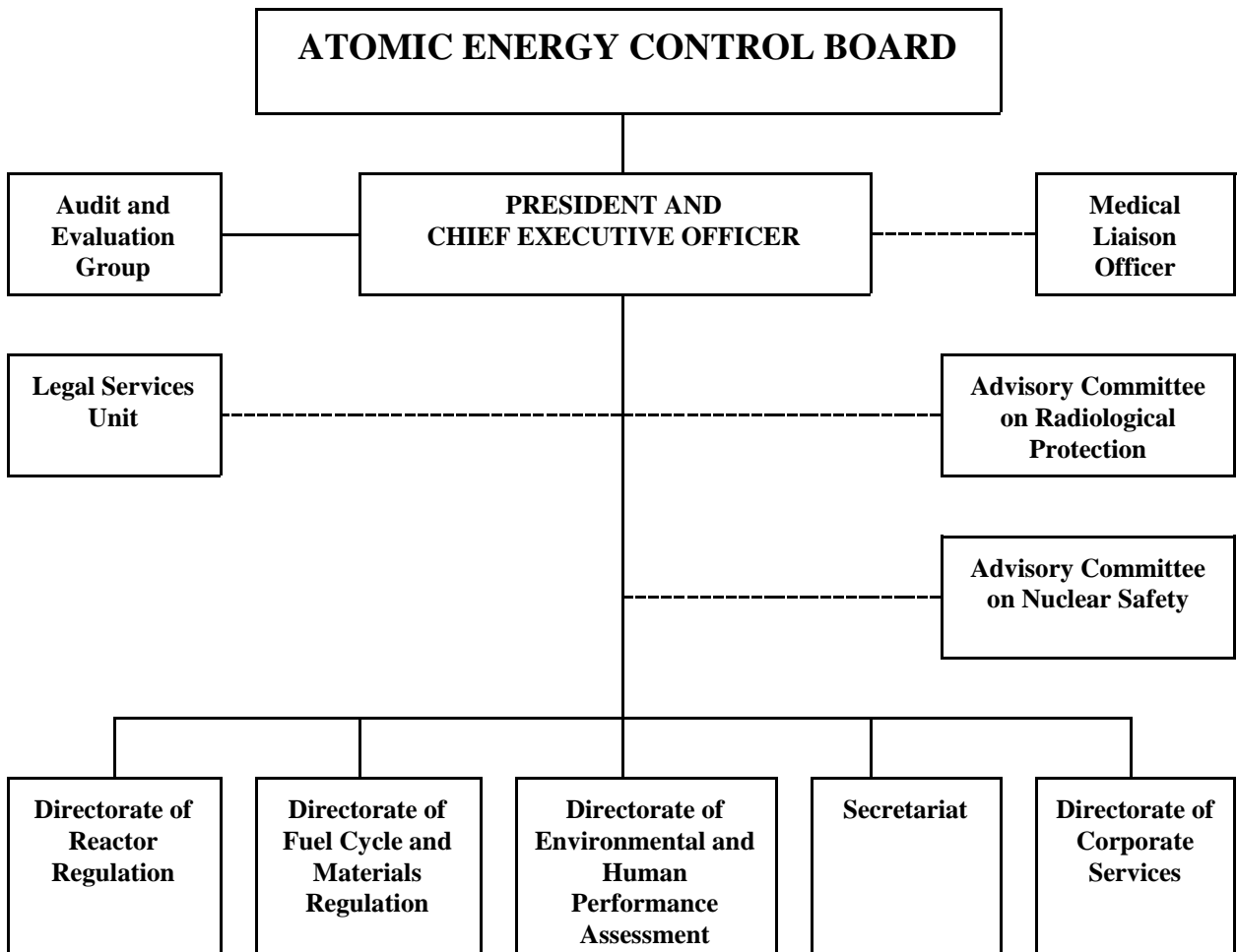
- The **Directorate of Reactor Regulation** is responsible for: the regulation of nuclear power reactors, including the development of safety standards and licence conditions, the assessment of licence applications and reactor operations, making licensing recommendations to the Board, and compliance activities.
- The **Directorate of Fuel Cycle and Materials Regulation** is responsible for the regulation of: uranium mining and processing; research facilities and particle accelerators; radioisotope production and use; radioactive waste management; and the transport of radioactive materials. This includes the development of safety standards and licence conditions, the assessment of licence applications and licensee operations, making licensing recommendations to the Board, and compliance activities. The Directorate also is responsible for technical aspects associated with the decommissioning of nuclear facilities.
- The **Directorate of Environmental and Human Performance Assessment** is responsible for the assessment of licensees' programs and performance in the areas of radiation and environmental protection, emergency preparedness planning, quality assurance, training and human factors. Other responsibilities include: technical training for AECB staff and for foreigners (under co-operation agreements); AECB obligations under the *Canadian Environmental Assessment*

*Act*; assessment of unplanned events at licensed facilities; incident investigation; research programs; and the development of standards.

- The **Secretariat** is responsible for: administrative support to Board members and advisory groups; external relations, corporate documents and public communications; coordination of corporate planning and of implementation of the *Nuclear Safety and Control Act*; non-proliferation, safeguards and security activities; administrative liaison with the Legal Services Unit; and administrative responsibilities of the AECB under the *Nuclear Liability Act*, the *Access to Information Act*, and the *Privacy Act*.
- The **Directorate of Corporate Services** is responsible for supplying services to the AECB to enable it to manage its human, financial and physical resources. The Directorate is also responsible for administering the AECB's security and conflict of interest programs.



## Organizational Chart



**Note:** ----- signifies an advisory role

## Section III: Departmental Performance

### A. Performance Expectations

AECEB performance expectations (objectives), articulated in the *1998-99 Estimates, A Report on Plans and Priorities*, are as follows:

#### 1. Serving Canadians

- Provide Canadians with an improved legislative and regulatory framework
- Provide Canadians with an enhanced regulatory process
- Advance Canadian policy respecting the non-proliferation of nuclear weapons and fulfil Canada's safeguards obligations

#### 2. Internal Performance

- Continue to develop a more effective and efficient organization

### B. Presentation of Financial Information

(Millions)

<b>Atomic Energy Control Board</b>	
<b>Planned Spending</b>	<b>\$45.3</b>
<b><i>Total Authorities</i></b>	<b><i>\$51.6</i></b>
1998-99 Actuals	\$48.8

Variations between planned spending and total authorities are mainly attributable to increased funding for the nuclear asset optimization plan (NAOP) (\$3.1M), the 1997-98 carry-over (\$1.9M), the economic increase (\$1.0M) and statutory employee benefits (\$0.3M).

## C. Performance Accomplishments

### 1. Serving Canadians

<b>Objective:</b>	<b>An improved legislative and regulatory framework</b>
<b>Key Result:</b>	<b>An effective regulatory framework</b>

An effective regulatory framework is essential to protecting Canadians from the risks that may be associated with nuclear technology. Establishing a solid legislative base through the *Nuclear Safety and Control Act*, as well as developing supporting regulations and an associated regulatory structure has been identified as a key AECB objective for the past several years. During the reporting period, the effort in this area has been concentrated on addressing public comments on proposed regulations, producing guidance for licensees and exploring harmonization issues with other federal and provincial jurisdictions.

#### ***The Nuclear Safety and Control Act and regulations***

- On March 20, 1997, the *Nuclear Safety and Control Act* received Royal Assent. The new Act will come into force when its supporting regulations are approved. Comments received from stakeholders were reflected in the revised regulations that were published in Part 1 of the *Canada Gazette* on October 10, 1998. The *Rules of Procedure* were published in Part 1 of the Gazette on February 13, 1999. AECB staff have carefully reviewed all comments and made changes to the drafts where appropriate. It is anticipated that the Act and associated regulations will be in force in 2000.
- AECB staff received training on the new Act to prepare them not only for the coming into force of the new Act, but to provide them with skills to develop new procedures and guidance documents for the new regulatory regime.

## Guidance for licensees

- Over the reporting period, the AECB continued the development of 50 regulatory documents. These regulatory documents help licensees, the public and other stakeholders understand the requirements and expectations of the AECB. Subjects include quality assurance and human factors assessment, radiation and environmental protection, dosimetry services licensing and operator certification and the operation of power reactors. Several of these regulatory documents have been issued as part of ongoing consultation with licensees and the public. Following public consultation, these documents will be amended as necessary and formally published.

## Cooperation with other jurisdictions

- During the year, the international community started preparations for the implementation of the '*Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management*'. The first gathering, of some 55 countries, elected a member of AECB staff as chair of that and subsequent meetings. Rules of procedure, the content of future national reports, and related subjects are the focus of ongoing detailed discussion.
- In support of the Convention on Nuclear Safety coordinated by the International Atomic Energy Agency, the AECB produced the "*Canadian National Report for the Convention on Nuclear Safety*" with contributions from industry and interested federal departments. This report will be reviewed, along with reports from other countries, during a meeting of the parties to the Convention in Vienna early next fiscal year. The report is a public document, ISBN 0-662-27207-2 and AECB INFO-0690 (E) or (F).
- The AECB hosted a three-day international workshop in Ottawa on the impact of Y2K on the nuclear industry, sponsored by the Nuclear Energy Agency of the Organisation for Economic Cooperation and Development.
- Discussions were held with Environment Canada on the revision of an existing but outdated Memorandum of Understanding on cooperation between the AECB and Environment Canada.
- A working relationship was established with the Ontario Ministry of Environment on joint consultation on environmental protection regulatory issues at nuclear power facilities in Ontario.

- Discussions were held with provincial authorities on collaboration in the development of national guidelines for off-site emergency preparedness plans.
- Participation and leadership continued in activities of the Federal-Provincial-Territorial Radiation Protection Committee.
- Discussions were held with the provincial government of Saskatchewan concerning the harmonization of regulatory regimes.
- Training programs were delivered by the AECB under the IAEA (Fellowship Program), CIDA (Canadian Nuclear Safety Initiative) and Atomic Energy of Canada, Ltd. (commercial contract) sponsorship.

<b>Objective:</b>	<b>An enhanced regulatory process</b>
<b>Key Results:</b>	<b>High levels of compliance in regulated activities</b>
	<b>Low frequency of safety-significant events</b>
	<b>Low levels of radiation exposure to humans and the environment</b>

Regulations and licences impose conditions on licensees that are intended to ensure that the use of nuclear energy in Canada does not pose undue risk to health, safety, security and the environment. An enhanced regulatory process promotes informed licensees who meet the conditions of their licence, who demonstrate compliance with the regulatory regime, and provides for the anticipation of possible facility failures and preparedness to deal with the failure, with the least risk to people and the environment, as well as an analysis of real and/or simulated incidents to correct safety requirements. Continuing to develop and improve regulatory control and compliance measurement and emergency preparedness are the means by which the AECB protects Canadians and the environment from exposure to radiation, and radioactive and hazardous materials.

### **Regulatory control and compliance measurement**

- The AECB initiated a corporate compliance strategy project with the objective of securing the highest level of compliance with the regulatory requirements. It will be implemented through a series of documents and initiatives, including a

Compliance Policy document, a Corporate Compliance Program and a number of Service Line Area Compliance Programs. The objective is to have the corporate compliance strategy project finalized and implemented by the end of 2000.

- A number of efforts were undertaken to provide an objective and systematic determination of licensee compliance. These include: quality assurance assessments and audits; assessments of human/machine interface and human performance issues at licensed facilities; evaluations of licensee staff training programs and competencies; on-site evaluations and assessments of radiation and environmental protection programs at licensed facilities, as well as technical reviews of licensee documentation.
- A corporate environmental information database management system, called ENVISTA, was established to provide AECB staff with an integrated and efficient method for managing environmental compliance data associated with the regulation of nuclear facilities.
- A number of presentations were made to licensees on AECB requirements in the areas of quality assurance and human factors assessment, radiation and environmental protection and operator certification.
- Attendant to the development of performance indicators for radioisotopes licensees, new and more reliable measures of compliance were formulated and posted on the Internet for review and comment by licensees and other stakeholders. These measures are tied to licence conditions and regulations. In a parallel effort, a project was undertaken to review licence conditions to align them with, and to make them more amenable to an objective determination of compliance under the new regulatory regime.
- AECB staff has made significant progress on developing licence conditions for nuclear power plants that have clearer and more measurable expectations. At the time of the changeover from Ontario Hydro to Ontario Power Generation in April 1999, a revised set of conditions were established. Further revisions will be introduced for all nuclear power plant licensees in the near future and when the new Act is promulgated.
- The adoption of licensing plans to coordinate staff efforts at each of the power reactor sites, and the adoption of formal classification of licensee performance in key areas is helping to integrate and focus staff efforts to best effect.

## Safety measures and assessment

- Among the research projects undertaken, two assessed licensing safety issues related to ageing plant and equipment (reactor safety and reliability). These projects assessed the margins to failure for degraded steam generator tubes. AECB staff now has a stronger basis for advice to the Board, recommendations for action to be taken by licensees, and regulatory guidance on fitness for service criteria.
- A regulatory investigation process was developed for the systematic and objective assessment and reporting of the causes of unplanned events at licensed facilities and the performance of the licensee during and following these events. This investigation process has been used to guide an investigation of an incident at a licensed facility.
- A research project was funded to review and amend the regulatory document “*Guidelines on Hospital Emergency Plans for the Management of Minor Radiation Accidents*”. Consequently, a revised framework on procedures for emergency planners at community hospitals has been produced.
- A research project was conducted to develop an in-depth understanding and model of the human organizational characteristics that influence safety at licensed facilities. An outcome of the research project was the Canadian Adaptive Machine Model which provides a basis for the application of reliable and defensible methods and standards by the AECB for its assessment of organization and management processes and structures.
- A new approach has been introduced to deal with generic action items, which are longer term unresolved safety issues which apply to more than one nuclear power facility. This approach has re-focussed attention on important outstanding questions and AECB expectations for closure on these issues are now clear.

<b>Objective:</b>	<b>Advancement of Canadian policy respecting the non-proliferation of nuclear weapons and fulfilment of Canada's safeguards obligations</b>
<b>Key Result:</b>	<b>Support of international efforts to develop, maintain and strengthen the nuclear non-proliferation regime</b>

The unique responsibility of the AECB with respect to fulfilling and ensuring consistency regarding Canada's international nuclear non-proliferation, safeguards and security obligations was continued during this reporting period. The AECB concentrated on: implementation of IAEA safeguards, application of non-proliferation policy; and participation in the international nuclear security regime.

### **Safeguards implementation and enhancement**

- In September 1998, Canada signed the Additional Protocol to its Safeguards Agreement with the International Atomic Energy Agency (IAEA). The Protocol gives the IAEA a legal basis to implement additional measures to strengthen its safeguards system, particularly regarding assurances of the absence of undeclared nuclear material and activities. It is anticipated that the Protocol will enter into force in 2000. In anticipation of the implementation of the Protocol, the AECB continued to develop a process for obtaining the required access to information and locations from the nuclear industry.
- The AECB continues to contribute expertise to the IAEA. At the request of the IAEA, Canada provided three technical experts in the safeguards field, in addition to an expert to serve on an IAEA action team set up by the UN Security Council to eliminate Iraq's weapons of mass destruction and the means to produce and use them. Canada is also represented by an AECB staff member on the IAEA's Standing Advisory Group on Safeguards Implementation which provides advice to the Director General of the IAEA.
- The AECB continued to aid the IAEA in its efforts to strengthen and improve safeguards, specifically in the area of Integrated Safeguards Approaches and the use of remote monitoring technologies.



## **Nuclear non-proliferation cooperation**

- In support of Canada's nuclear non-proliferation policy, the AECB continued its activities to assure that Canada's nuclear exports are used only for peaceful, non-explosive purposes, and to contribute to the emergence of a more effective and comprehensive international nuclear non-proliferation regime. The AECB licensed the export of nuclear materials, deuterium, equipment and technology, nuclear dual-use items and the import of nuclear materials and deuterium. During the reporting period, 619 nuclear export licenses and 276 nuclear import licenses were issued or amended by the AECB.
- The AECB participated in bilateral nuclear policy and/or technical consultations with a number of Canada's nuclear partners including Australia, Euratom, Japan, Republic of Korea, Russian Federation and the USA.
- In this reporting period AECB staff participated in multilateral nuclear non-proliferation fora, including the Zangger Committee and the Nuclear Suppliers Group (NSG) Plenary Meeting and other NSG working groups.

## **International nuclear security regime**

- In response to growing international concerns with the regulatory framework supporting the physical protection of nuclear facilities and materials, the IAEA has developed an International Physical Protection Advisory Service (IPPAS). In support of this initiative, the AECB supplied an expert who participated in a mission to the Czech Republic. AECB staff also participated in IAEA working group meetings to revise the IAEA guidelines "Physical Protection of Nuclear Material (INFCIRC/225/Rev.3)".
- The AECB serves as the official Canadian point-of-contact for the IAEA Convention on the Physical Protection of Nuclear Material and the IAEA Illicit Trafficking Database. In addition, the AECB in conjunction with DFAIT, ensures that measures for the physical protection of nuclear materials in Canada are consistent with Canada's international obligations.

## 2. Internal Performance

<b>Objective:</b>	<b>A more effective and efficient organization</b>
<b>Key Results:</b>	<b>An effective regulatory framework Public confidence in the AECB</b>

Fulfilling an organization's mandate and mission is closely tied to the management framework and culture that prevails. An organization that improves its effectiveness in achieving its expressed mission inspires greater public confidence.

In a continuing effort to improve regulatory and management policies and methods, the AECB adopted a strategic plan that outlines the direction of the organization's plans and activities. Several initiatives were undertaken during the reporting period in support of the objectives laid out in the strategic plan.

### AECB Strategic Plan

AECB management has articulated a strategic plan identifying five principal objectives or directions. A member of senior management (Executive Committee) has been assigned responsibility for each objective. Meeting these strategic directions will ensure that the AECB continues to deliver high quality service while fulfilling its mandate.

The objectives of the Strategic Plan are:

- ◆ implement the *Nuclear Safety and Control Act*
- ◆ improve the management and leadership culture
- ◆ reform the human resources framework
- ◆ communicate more effectively
- ◆ finalize the internal review *Project 96 and Beyond* (a broad spectrum of key recommendations to improve internal management policies and practices)

Activities and plans in support of the AECB Strategic Plan include the following:

- An integrated corporate planning approach was approved. This approach includes the implementation of a formal planning cycle with strategic planning sessions of senior management, the formation of the Corporate Reports Committee to coordinate the preparation of corporate planning documents, and the submission of a Business Plan to Treasury Board.

- Human resources were reformed with the development of a job evaluation plan specific to the AECB and the redesign of the AECB's occupational group structure and salary bands. All positions and staff below the executive level were converted to the new structure effective March 1, 1999.
- The Audit and Evaluation Group assessed the following areas during the reporting period: reviews of the design and implementation of the AECB corporate reorganization; alternatives and success issues relating to the regulation of nuclear power plant control room authorized personnel; review of the use of legal services; reporting of the corporate review on the regulatory function compliance inspection, enforcement and follow-up; and the planning phase of an internal audit of AECB's Year 2000 internal preparedness. Assistance was provided to management in moving towards a "managing by results" operation.
- Broader information dissemination and heightened public awareness of the AECB's mandate and role are a high priority. Communications activities to meet this goal included expanding the AECB website to provide more information on licensing actions and activities (e.g. board meeting agendas, news releases, speeches, etc.) and to consult and seek feedback (i.e. posting of draft regulations for comment). The AECB has strengthened its capacity for media and community relations, including broader, more efficient distribution of news releases. Significant effort was also put into improving internal communications, informing staff of corporate issues, providing communications advice and developing the tools and vehicles to support the communications program.

## **Section IV: Consolidated Reporting**

### **A. Year 2000 Readiness**

The "millennium bug" is a serious potential challenge to the safety of nuclear plants and facilities. While the primary responsibility for addressing the Y2K problem rests with nuclear operators, the AECB has an obligation to satisfy itself that the industry is demonstrating Y2K readiness with respect to systems that could affect health, safety or environmental protection.

The AECB developed a comprehensive strategy to deal with the Y2K problem which includes a deadline of June 30, 1999 for licensees to report formally on their susceptibility to Y2K problems and provide assurances that all systems are ready for continued operation into the Year 2000. This deadline will allow licensee staff the balance of 1999 to become familiar with any required operational changes and new procedures, as well as giving the AECB time to take appropriate action if it is not satisfied with a particular operator's Y2K readiness.

During the reporting period, the AECB hosted a three-day international workshop in Ottawa on the impact of Y2K on the nuclear industry, sponsored by the Nuclear Energy Agency of the Organisation for Economic Cooperation and Development. Regulators and operators from around the world explored how different countries are responding to the Y2K challenge, and shared information about lessons learned to date, and plans for the future.

The AECB organization does not have any internal systems which the public, licensees, or other government organizations directly depend upon or interact with. However, the AECB does have systems that are not Y2K compliant that could affect internal operations and consequently have an impact on efficient program delivery. These systems have been identified and it is anticipated that all necessary actions will be completed by October 1999.

While the AECB is confident that Y2K issues are being addressed, it is developing contingency plans, particularly in relation to loss of power and telecommunications, which could affect its ability to carry out its critical functions.

## **Section V: Financial Performance**

### **A. Financial Performance Overview**

The summary tables that follow present an overview of the Atomic Energy Control Board's financial performance. The financial information presented in most tables includes three figures: "Planned Spending" represents the government appropriations received at the beginning of the fiscal year; "Total Authorities" includes planned spending plus additional spending approved by Parliament during the fiscal year; and "Actual" represents the actual expenditures incurred by the Board for the fiscal year.

As the Atomic Energy Control Board has only one business line -- administration of the *Atomic Energy Control Act* and participation in measures of international control of atomic energy -- financial summary tables presenting information by business line contain only one set of figures.

In 1998-1999, the AECB planned spending of \$45.3 million consisted of an operating budget of \$44.6 million and a transfer payment budget (Grants and Contributions) of \$0.7 million. The transfer payments budget consisted of a \$0.65 million contribution to the International Atomic Energy Agency for the Canadian Safeguards Support Program and several smaller grants and contributions to other international and non-profit organizations.

In addition to the \$45.3 million planned spending, the AECB received supplementary funding for the 1997-1998 carry-over (\$1.9 million); economic increases related to salary costs (\$1.0 million); statutory employee benefits (\$0.3 million); and a frozen allotment of \$3.1 million for the nuclear asset optimization plan.

## B. Financial Summary Tables List

Financial Table #	Financial Table Title
1	Summary of Voted Appropriations
2	Comparison of Total Planned Spending to Actual Spending
3	Historical Comparison of Total Planned Spending to Actual Spending
7	Non-Respendable Revenues
8	Statutory Payments
9	Transfer Payments
15	Contingent Liabilities

## C. Financial Summary Tables

Financial Table 1 - Summary of Voted Appropriations

Financial Requirements by Authority (\$ millions)				
		1998-99		
Vote		Planned Spending	Total Authorities	Actual
	<b>Atomic Energy Control Board</b>			
15	Program Expenditures	40.2	46.2	43.4
(S)	Contributions to Employee Benefit Plans	5.1	5.4	5.4
	<b>Total AECB</b>	45.3	51.6	48.8

Total Authorities are Main Estimates plus Supplementary Estimates plus other authorities.

Variances between planned spending and total authorities are mainly attributable to increased funding for the nuclear asset optimization plan (NAOP) (\$3.1M), the 1997-98 carry-over (\$1.9M), the economic increase (\$1.0M ) and statutory employee benefits (\$0.3M).

**Financial Table 2 - Comparison of Total Planned Spending to Actual Spending**

<b>Departmental Planned versus Actual Spending (millions of dollars)</b>			
<b>Business Lines</b>	<b>1998-99</b>		
	<b>Planned</b>	<b>Total Authorities</b>	<b>Actual</b>
<b>FTEs</b>	430	-	-
<b>Operating</b>	43.6	49.2	<b>46.5</b>
<b>Minor Capital</b>	1.0	1.7	<b>1.7</b>
<b>Voted Grants &amp; Contributions</b>	.7	.7	<b>.6</b>
<b>Subtotal: Gross Voted Expenditures</b>	45.3	51.6	<b>48.8</b>
<b>Statutory Grants &amp; Contributions</b>	-	-	-
<b>Total Gross Expenditures</b>	<u>45.3</u>	<u>51.6</u>	<u><b>48.8</b></u>
<b>Less:</b>			
<b>Respendable Revenues</b>	-	-	-
<b>Total Net Expenditures</b>	<b>45.3</b>	<b>51.6</b>	<b>48.8</b>
<b>Other Revenues and Expenditures</b>			
<b>Non-Respendable Revenues</b>	(34.9)	(-)	<b>(34.3)</b>
<b>Cost of services provided by other departments</b>	5.0	-	<b>5.2</b>
<b>Net Cost of the Program</b>	<b>15.4</b>	-	<b>19.7</b>

\*Note that the AECB only has one business line



**Financial Table 3 - Historical Comparison of Total Planned Spending to Actual Spending**

<b>Historical Comparison of Departmental Planned versus Actual Spending (\$ millions)</b>					
	<b>Actual 1996-97</b>	<b>Actual 1997-98</b>	<b>1998-99</b>		
			<b>Planned Spending</b>	<b>Total Authorities</b>	<b>Actual</b>
Atomic Energy Control Board	44.5	43.8	45.3	51.6	48.8
<b>Total</b>	<b>44.5</b>	<b>43.8</b>	<b>45.3</b>	<b>51.6</b>	<b>48.8</b>

Total Authorities are Main Estimates plus Supplementary Estimates plus other authorities.

Variances between planned spending and total authorities are mainly attributable to increased funding for the nuclear asset optimization plan (NAOP) (\$3.1M), the 1997-98 carry-over (\$1.9M), the economic increase (\$1.0M ) and statutory employee benefits (\$0.3M).

**Financial Table 7 - Non-Respendable Revenues**

<b>Non-Respendable Revenues (\$ millions)</b>					
	<b>Actual 1996-97</b>	<b>Actual 1997-98</b>	<b>1998-99</b>		
			<b>Planned Revenues</b>	<b>Total Authorities</b>	<b>Actual</b>
Atomic Energy Control Board	38.7	32.7	34.9	-	34.3
<b>Non-Respendable Revenues</b>	<b>38.7</b>	<b>32.7</b>	<b>34.9</b>	<b>-</b>	<b>34.3</b>

**Financial Table 8 - Statutory Payments**

<b>Statutory Payments (\$ millions)</b>					
			<b>1998-99</b>		
	<b>Actual 1996-97</b>	<b>Actual 1997-98</b>	<b>Planned Spending</b>	<b>Total Authorities</b>	<b>Actual</b>
Atomic Energy Control Board	3.8	4.1	5.1	5.4	5.4
<b>Total Statutory Payments</b>	<b>3.8</b>	<b>4.1</b>	<b>5.1</b>	<b>5.4</b>	<b>5.4</b>

**Financial Table 9 - Transfer Payments**

<b>Transfer Payments (\$ millions)</b>					
<b>Business Lines</b>	<b>Actual 1996-97</b>	<b>Actual 1997-98</b>	<b>1998-99</b>		
			<b>Planned Spending</b>	<b>Total Authorities</b>	<b>Actual</b>
<b>GRANTS</b>					
Atomic Energy Control Board	-	-	-	-	-
<b>Total Grants</b>	-	-	-	-	-
<b>CONTRIBUTIONS</b>					
Contributions to the Cost-Free Manpower Assistance Program and to procure related goods and services required to execute the Canadian Safeguards Support Program for the International Atomic Energy Agency	.6	.6	.7	.7	.6
<b>Total Contributions</b>	<b>.6</b>	<b>.6</b>	<b>.7</b>	<b>.7</b>	<b>.6</b>
<b>Total Transfer Payments</b>	<b>.6</b>	<b>.6</b>	<b>.7</b>	<b>.7</b>	<b>.6</b>
<p>All grants and contributions amounts are less than \$100,000 for all fiscal years except for the Contributions to the Cost-Free Manpower Assistance Program and to procure related goods and services required to execute the Canadian Support Program for the International Atomic Energy Agency</p>					

**Financial Table 15 - Contingent Liabilities**

<b>Contingent Liabilities (\$ millions)</b>			
<b>List of Contingent Liabilities</b>	<b>Amount of Contingent Liability</b>		
	<b>March 31 1997</b>	<b>March 31 1998</b>	<b>Current as of March 31, 1999</b>
<b>Loans</b>	-	-	-
<b>Claims and Pending and Threatened Litigation</b>			
Litigations	.3	.3	.3
<b>Total</b>	<b>.3</b>	<b>.3</b>	<b>.3</b>

**D. Special Travel Policies**

The Atomic Energy Control Board travel policy differs slightly from that of the Treasury Board. These differences, however, are minimal and result in no additional costs in the area of travel. Daily travel allowances are identical to those outlined in the Treasury Board policy, while the policy concerning economy travel is consistent with Treasury Board guidelines.

## Section VI: Other Information

### A. Contacts for Further Information

For further information about the Atomic Energy Control Board, contact:

Communications Division  
Atomic Energy Control Board  
280 Slater Street  
Ottawa, Ontario  
K1P 5S9

Telephone: (613) 995-5894  
1-800-668-5284

Fax: (613) 995-5086

E-mail: [info@atomcon.gc.ca](mailto:info@atomcon.gc.ca)

Internet: <http://www.aecb-ccea.gc.ca>

### B. Legislation and Associated Regulations Administered by the AECB

The Minister of Natural Resources Canada has sole responsibility to Parliament for the following Acts and associated Regulations:

<i>Atomic Energy Control Act</i>	<i>R.S.C., 1985, Chapter A-16</i>
<i>Nuclear Liability Act</i>	<i>R.S.C., 1985, Chapter N-28</i>

### C. Other Departmental Reports

Atomic Energy Control Board, *Annual Report 1998-99*.