

ATOMIC ENERGY OF CANADA LIMITED
CORPORATE PLAN SUMMARY
2016-17 TO 2020-21

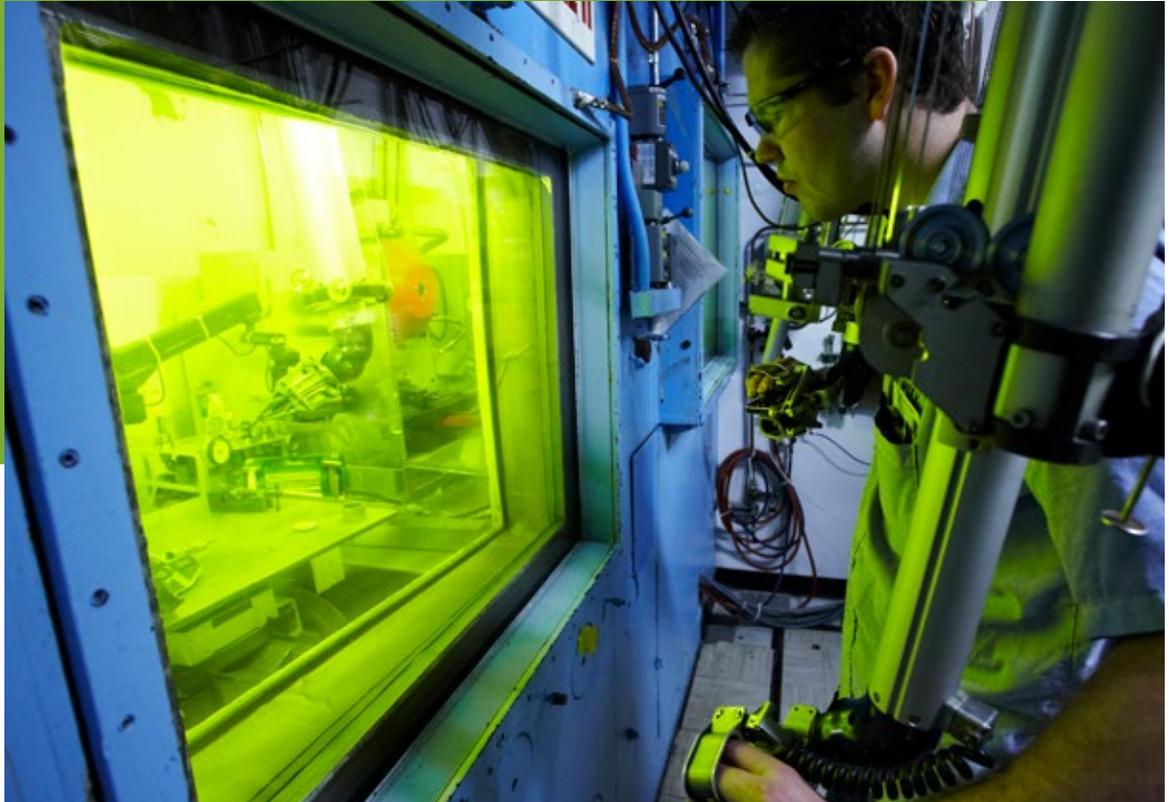


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Note: AECL's Corporate Plan is approved by the Governor in Council, as per the requirements of the *Financial Administration Act*. This summary of the Corporate Plan informs Parliamentarians and Canadians of AECL's strategic direction and objectives for the planning period and provides financial plans as well as operating and capital budgets. Commercially detrimental information is excluded from this summary pursuant to section 153(1) of the *Financial Administration Act*.

Mandate

As a federal Crown corporation, AECL's mandate is to enable nuclear science and technology and fulfill Canada's radioactive waste and decommissioning responsibilities. This work is undertaken at eight main sites across Canada, with headquarters in Chalk River, Ontario. The Chalk River site is AECL's main laboratory campus and Canada's largest research and development complex. This science campus boasts multiple highly-specialized and unique laboratory facilities, testing equipment and a large research reactor, the National Research Universal (NRU), all of which are used to leverage nuclear science and technology for peaceful purposes. Scientific activities have important applications in the areas of health, safety, security, energy, non-proliferation, environmental protection and emergency response that benefit Canada and Canadians.



AECL is also responsible for addressing Canada's radioactive waste and decommissioning responsibilities. AECL is responsible for the proper and safe cleanup and long-term management of the radioactive waste at its sites. On behalf of the Government of Canada, AECL also oversees similar work at sites where the Government has assumed responsibility for historic, low-level radioactive waste, such as in the municipalities of Port Hope and Clarington, in Ontario.

AECL receives federal funding to deliver on its mandate and reports to Parliament through the Minister of Natural Resources. It also leverages the unique capabilities at its sites to support industry and other third parties on commercial terms.

AECL delivers its mandate through long-term contracts with the private-sector for the management and operation of its sites. This is described in more detail in the following section.

Corporate Profile

AECL has been leading nuclear science and technology for over six decades, and traces its origins back to the inception of nuclear reactors. Since then, the organization has been at the forefront of scientific achievements for Canada, including the design and development of the CANDU reactor technology. Work undertaken at the Chalk River Laboratories, in Ontario, have led to numerous and important scientific achievement and its employees have been recognized the world around – including two Nobel Prize winners – for their contribution to science.

Over the years, AECL has played an important role in supporting public policy and in delivering programs for the Government of Canada. This includes the production of medical isotopes, the remediation of contaminated sites in the municipalities of Port Hope and Clarington in Ontario, the decommissioning of its own sites and facilities, as well as the provision of nuclear science and technology in the areas of energy, non-proliferation, emergency preparedness, counter-terrorism, health, and security. AECL's unique facilities have made it an attractive research destination for scientists across Canada and the world, leading to home-grown innovation and the development and retention of highly-qualified nuclear workers and scientists.

Restructuring and the Government-owned, Contractor-operated Model

Starting in 2009, the Government undertook a restructuring of AECL with a view to reducing risks and costs to Canadian taxpayers while leveraging AECL's capabilities for the benefit of Canadians and industry. The restructuring was undertaken in two phases, the first of which was completed in 2011 with the sale of the assets of AECL's CANDU Reactor Division to Candu Energy Inc., a wholly-owned subsidiary of SNC-Lavalin. The second phase focussed on the remainder of the organization, the nuclear laboratories and associated waste management responsibilities, with the objective of implementing a Government-owned, Contractor-operated (GoCo) model.

As part of this second phase, the Government launched a procurement process to select a private-sector contractor to take responsibility for the management and operations of the laboratories. The objective is to bring private-sector rigour and efficiency while leveraging the significant expertise and facilities at the laboratories.

In 2015, following the selection of Canadian National Energy Alliance, a consortium made up of CH2M HILL, EnergySolutions (now WS Atkins), Fluor, SNC-Lavalin and Rolls-Royce, AECL moved from a Government-owned, Government-operated model to a GoCo model.

Through this model, AECL entered into a long-term contract with Canadian National Energy Alliance for the management and operation of Canadian Nuclear Laboratories Ltd. (CNL). CNL was created first as a wholly-owned subsidiary of AECL, and its ownership was subsequently transferred to Canadian National Energy Alliance.

As a result, today CNL is a private-sector company responsible for the day-to-day management and operation of all of AECL's sites, facilities and assets. CNL employs over 3,500 people, most of whom were previously employees of AECL.

For its part, AECL was re-created as a purpose-built small Crown corporation with a view to ensuring that it has the necessary expertise and capabilities to oversee the GoCo agreements. AECL's objective is to leverage the GoCo model to deliver on its mandate. Its role is to monitor and incentivize the performance of CNL to meet AECL's objectives. AECL also continues to be responsible for the management of retained liabilities related to AECL's former CANDU Reactor Division (discontinued commercial operations).

Operating Environment

Assessment of Results

The previous fiscal year, 2015-16, was one of transition for AECL, which included a transition to a different operating context and business environment: different challenges, opportunities and risks, as well as new benchmarks, objectives and plans.

The focus of this section is to report on the performance measures that were set out in AECL's 2015-16 Corporate Plan, while recognizing that the previous year was one of transition and important change. As such, several accomplishments achieved during the 2015-16 fiscal year should be noted as based on the priorities and commitments for the Corporate Plan of the same year. Most of these relate to the preparation for, and transition to, the GoCo model:

Priorities	Measures of success	Results
Achieving share transfer and completing the restructuring	Achieving the transfer of the shares of CNL to the selected private-sector contractor within established timelines (during or before fall 2015).	The shares of CNL were successfully transferred to the selected private-sector contractor, Canadian National Energy Alliance, in summer of 2015.
Transition-in	CNL will deliver all of the transition-in deliverables, as set out in the contract. This objective will be achieved when AECL accepts or otherwise receives the deliverables, as specified in the contract.	On March 31, 2016, AECL confirmed to CNL and Canadian National Energy Alliance that the transition-in period had ended.
Establishing appropriate oversight model and interface	CNL will have presented a description of its proposed contractor assurance system. CNL and AECL will meet their contractual obligations on time.	CNL provided AECL with a description of its proposed contractor assurance system, which was accepted by AECL. AECL met its contractual obligations on time.

Priorities	Measures of success	Results
Drive improvement at CNL before and after the restructuring	Enable improved CNL safety culture, as measured by CNL demonstrating a renewed focus on safety and the implementation of some new industry best practices. Trends in key safety metrics (lost time injuries, environmental incidents, contamination incidents) are improving against previous years.	CNL continued the very positive downward trend for Lost Time Injuries with a frequency and severity of 0.06 and 0.37 respectively (calculated based on the number of lost-time injuries as compared to the total number of hours worked), a noted reduction in environmental events, and encouraging progress in reducing radiological contamination incidents with corresponding increased intensity on process improvement to mitigate reoccurrences. In addition, positive continuous improvement in property/asset maintenance trend data: detailed condition assessment analysis underway, increased preventive maintenance completion rates, positive trend to optimize preventive maintenance to corrective maintenance ratio, and increased reliability of facilities and services to core business activities.
	Engender momentum for the Decommissioning and Waste Management programs by demonstrating progress on facility decommissioning and/or waste shipment, as measured by CNL's decommissioning activities for 2015-16, as specified in its Annual Program of Work and Budget.	The focus for the decommissioning and waste management programs at this early stage is on the development of capability and process fundamentals to set the stage for effective delivery. Taking advantage of the broad experience of Canadian National Energy Alliance's parent companies, this includes the development of a detailed Waste Management Strategy, proactive efforts toward the design and licensing of a Near Surface Disposal Facility, and establishment of effective characterization strategies. In addition to the capability-building efforts, significant milestones have been achieved in the repatriation of highly-enriched uranium with the first shipment of NRX fuel rods to the Savannah River Site in South Carolina (US), and in preliminary decommissioning work beginning this summer that will clear significant land in the Supervised area and change the skyline for the site.
	Begin aligning CNL's science and technology activities with Federal needs and priorities, as measured by CNL's contribution to the development of the Federal Nuclear Science and Technology Work Plan.	The governance and terms of reference for the Federal Nuclear Science and Technology Work Plan were established and the interdepartmental committees, with representation from 13 departments and agencies, provided guidance to CNL on an annual program of work that would meet the needs of the Government. CNL provided a program of work and budget for the Federal Nuclear Science and Technology Work Plan that was aligned with the guidance and endorsed by the interdepartmental committees.

Operating Considerations

The GoCo model has been in place for the management of nuclear laboratories in the United States from the beginning of the Department of Energy National Laboratories structure. More recently, the United Kingdom has moved to this model in order to bring about change in the management culture of its sites and advance its decommissioning mission. In fact, the implementation of the GoCo paradigm in Canada closely resembles that of the United Kingdom, with adjustments to reflect the Canadian context and to reflect lessons learned in other jurisdictions.

Importantly, the GoCo model is expected to allow AECL to significantly advance its radioactive waste and decommissioning mission, a focus which is now a common trend amongst nuclear nations. Indeed emphasis is being placed on promptly addressing decommissioning objectives and identifying long term disposal solutions sooner in order to reduce risks. This is particularly relevant for old facilities and sites where the costs and risks of maintaining the status quo (e.g. the upkeep of old, contaminated buildings) are greater than those of actual decommissioning, decontaminating and demolishing facilities to properly treat and store radioactive waste in long-term waste management facilities or disposal facilities.

As such, AECL has placed significant emphasis on CNL reviewing existing plans and proposing new plans that will contribute to advancing AECL's decommissioning and waste management responsibilities. This includes, for example, accelerating the development, design and construction of a near-surface disposal facility at the Chalk River Laboratories. This facility will serve as a final resting place for a large volume of CNL waste. There is also a focus on the acceleration of the decommissioning and closure of the Whiteshell Laboratories and Nuclear Power Demonstration reactor (located in Manitoba and Ontario, respectively).

Furthermore, AECL also expects the model to allow for a renewal of the Chalk River Laboratories' infrastructure, with a view to leveraging existing capabilities and expertise to build a world-class, unique and nimble science complex capable of meeting the needs of the federal Government while growing third-party revenues.

As a result, 2016-17 will be a critical year for establishing longer-term plans for CNL in the areas of decommissioning, science & technology, and capital investments. AECL will be working with CNL, and challenging it as necessary, to develop plans that integrate industry best practices and are expected to bring value for Canada.

AECL's sphere of influence

AECL's role under the GoCo model is to oversee the contract and the performance of CNL relative to its contractual obligations. This includes leveraging the expertise and capabilities of CNL, including the new leadership brought to CNL by Canadian National Energy Alliance. This is a significantly different role than the one AECL has had for the past decades, whereby it used to be directly responsible for all of the activities at its sites and for directing the work to advance its missions.

AECL's new oversight role is fundamentally to direct the 'what', not the 'how'. Indeed, CNL as the operator of the licenced nuclear facilities and employer of the workforce, is responsible for the day-to-day management of the sites and directly accountable for directing the work.

Through the acceptance of CNL's Annual Program of Work and Budget, AECL can influence CNL's plans to ensure that they are aligned with AECL's priorities. AECL's role is to challenge CNL's plans to find the right balance between the level of activities that are necessary to achieve AECL's mandate and provide value for money for Canada while being achievable.

Risks and Opportunities

With a new role comes new challenges and opportunities. AECL has put in place an approach to identify risks and mitigation strategies. The main risks identified in implementing its mandate and delivering on its new role are presented below.

Contractual Risks

The GoCo model represents a new structure that relies on the expertise brought about by Canadian National Energy Alliance as well as proper oversight by AECL to achieve value for money for Canada. As the contractual relationship is implemented and matures, CNL and AECL will be looking to establish work processes based both on contractual requirements as well as other formal and informal collaboration and communication processes. The success of the model relies, in part, on the strength of the relationship established, the level of trust and confidence between the two organizations, as well as the proper level of oversight placed on CNL. AECL will continue to work to find the right balance between placing sufficient oversight so that it has a line of sight into activities and can play a proper challenge function, but not too onerous oversight such that unnecessary administrative requirements and processes result. Indeed AECL's role is to direct the 'what', not the 'how'.

To mitigate this risk, protocols and management processes have been established in an effort to ensure proper information is being shared at all levels and to facilitate collaboration, including a Contractor Assurance System (a system that allows the contractor to manage performance consistent with contractual requirements) and a standard-based Earned Valued Management System (a system to manage projects and track performance) which is available to AECL. AECL has also been working formally and informally to establish a strong relationship with CNL based on trust and respect. Leveraging the existing relationship will allow AECL to focus its attention on engaging CNL on broad strategic issues which are of high value to Canada, rather than focussing on processes and frequent transactions that add lesser value. It should be noted though that AECL retains broad audit rights should it require additional information from CNL.

Internal Risks

AECL's operations and success, including the provision of effective contractual oversight, depends in large part on the organization's ability to retain its small workforce comprised of highly qualified and specialized employees. At the beginning of this fiscal year, AECL has in place a full staff complement. However, retention and filling future vacant positions could prove challenging given the fairly limited number of experts in operating nuclear sites in a GoCo environment such as AECL's. In particular, AECL has recruited international experts in order to have the right knowledge and competencies in place to help it implement the GoCo model, and replacing those experts may be challenging.

The retention of these international experts, along with the on-the-job training of other staff, continues to be critical to enable the organization to continue to sustain operations. This will be achieved through succession planning and cross training/mentoring in order to 'groom' the next generation of Canadian experts in the GoCo model and to avoid any gaps in critical positions. Furthermore, AECL's compensation structure will be reviewed annually with a view to preserving AECL as an attractive and competitive employer for its highly-qualified personnel.

Given that the GoCo model is still new in 2016-17, AECL anticipates adjustments to its organizational structure, and associated resource needs, to adapt to its new role. To that effect, AECL has built in flexibility to be able to periodically and strategically augment its resource capabilities and skills, by engaging specialized resources on an as-needed basis.

CNL Project Risks

AECL has identified several high-priority projects and is closely tracking CNL's progress in advancing the work. In all cases where AECL has identified higher-risk projects, closer oversight of projects is being applied. This includes ensuring that plans appropriately reflect the identified priorities and necessary actions, engaging with other stakeholders, as required, monitoring performance and ensuring that the incentive plan is aligned with the priority and risk areas.

Objectives and Plans

With the GoCo model in place since the summer of 2015, AECL is now focussing its efforts on overseeing the delivery of CNL's commitments as per its Annual Program of Work and Budget. 2016-17 will also be an important year for establishing the strategic direction for CNL, as it will be developing its long-term plans for review and acceptance by AECL.

As such, AECL will be looking to CNL to deliver on its short-term priorities as set out in the Annual Program of Work and Budget, and achieve the targets established in the Performance Evaluation and Measurement Plan. Highlights of these are presented in the section below.

AECL's longer-term objectives for delivering on its decommissioning and waste management responsibilities, sustaining and building a strong science and technology program, and revitalizing the Chalk River Laboratories, are also presented below. Given that AECL will be working with CNL to develop its 5- and 10-year plans related to these missions in 2016-17, the objectives and performance measures associated with 2017-18 and beyond may be adjusted once CNL's long-term plans have been finalized.

Planned budgets for each of the priority areas are presented below. These are based on CNL's planned budgets for 2016-17 as set out in its Annual Program of Work and Budget of the same year. Budgets for 2017-18 and subsequent years are based on available government funding and projected commercial revenues. Furthermore, the Consolidated Financial Statements in Annex A provide further details on AECL's financial position.

Total AECL Federal Funding Requirements for the Planning Period (Excluding Discontinued Operations) - Cash

Net of Revenue

(\$ millions)	Actual 2014-15	Budget 2015-16	Plan					5-year Total
			2016-17	2017-18	2018-19	2019-20	2020-21	
Funding Requirements								
Decommissioning and Waste Management	233	230	413	520	581	600	489	2,602
Nuclear Laboratories	357	422	470	475	418	388	342	2,093
Total Funding Requirements AECL	591	652	883	995	999	988	831	4,695
Funded through Heavy Water Proceeds	48	47	41	29	9	-	-	79
Adjusted Overhead Allocation	42	-	-	-	-	-	-	-
Net Federal Funding Requirements AECL	501	605	843	966	990	988	831	4,616

Note: Minor differences due to rounding.

FY14/15 funding numbers were retroactively adjusted to reflect the new DBA costing methodology, as a result there is a required adjustment to the overhead that has been allocated to the funding numbers.

Decommissioning and Waste Management

Priority: Fulfill Canada's Radioactive Waste and Decommissioning Responsibilities

AECL carries an important radioactive waste and decommissioning liability, which is the result of decades of nuclear activities at its sites. This liability represents the estimated costs of cleaning-up existing waste areas, as well as safely decontaminating, demolishing and disposing of contaminated buildings and facilities. AECL's objective is to address hazards in order to reduce risks and costs for Canada in a manner consistent with international best practices.

AECL is also responsible for fulfilling Canada's responsibilities with respect to historic low-level waste at sites where the original owner no longer exists or cannot be held liable and for which the Government has accepted responsibility. This includes the cleanup and safe management of historic, low-level radioactive waste in the municipalities of Port Hope and Clarington, in Ontario.

The implementation of the GoCo model provides an opportunity for AECL to leverage the experience and expertise of the private-sector to optimize work and increase efficiencies and effectiveness, including taking action to address risks sooner and advancing the commissioning of waste disposal facilities, in order to reduce the long-term costs of maintenance and surveillance. As such, AECL will be looking to CNL to propose new plans in order to advance work with respect to decommissioning and waste management, thereby aligning itself with international best practices and reducing the Government's liability in a much shorter period of time than what had previously been planned.

Work in this respect started during the transition period, immediately following the implementation of the GoCo model, and is expected to continue into 2016-17 with CNL developing and proposing long-term plans to advance AECL's decommissioning and waste management responsibilities. As such, while notional performance measures and targets for 2017-18 and beyond have been included below, they will be further defined during 2016-17 and reflected in subsequent Corporate Plans.

Work will be focussed, and budget allocated and tracked, along five project areas:

1. *General Decommissioning and Waste Management*

AECL's legacy waste at its Chalk River Laboratories and two other smaller sites, Gentilly-1 in Quebec and Douglas Point in Ontario. Activities for the planning period will mainly focus on the Chalk River Laboratories, where the majority of AECL's liabilities are located.

AECL's priorities for the planning period will be twofold: overseeing the transformation of CNL's decommissioning and waste management organization, as well as the advancement of key decommissioning and waste management activities at Chalk River. These include CNL's design, licensing and stakeholder engagement work with respect to a Near Surface Disposal Facility, as well as the decommissioning and demolition of redundant infrastructure, which will reduce risks and enable site remediation as well as infrastructure renewal.

AECL will also oversee CNL's work with respect to the highly-enriched uranium Repatriation Projects, to minimize the associated operational and environmental risk.

Measures of success include:

Outcome	Performance measure	Target	
Waste management practices are transformed based on a strategic, integrated and cost-effective long-term vision for the management of AECL's liabilities.	CNL issues the first comprehensive Integrated Waste Strategy document that includes current inventories and status of waste disposition routes for all CNL sites and locations.	31 March 2017	
	AECL's acceptance of CNL's 5- and 10- year plans for decommissioning and waste management	31 March 2017	
	Waste management areas have new accommodation and dedicated crafts are assigned to projects	31 March 2017	
The decommissioning and waste management program at the Chalk River site is accelerated to reduce AECL's liabilities.	Over time, AECL's liabilities are reduced	TBD based on the long-term plans which will be developed and approved in 2016-17	
	CNL designs, plans, seeks appropriate support and approvals and builds a near surface disposal facility	TBD based on the long-term plans which will be developed and approved in 2016-17	
	Milestones associated with skyline changes at the Chalk River Laboratories are met as per CNL's Annual Program of Work and Budget and Performance Evaluation and Measurement Plan	2016-17: Engagement of regulator and stakeholders	
	Repatriation Program: continuation of fuel rod and Initiation of target residue material shipments to the U.S. DOE Savannah River Site	2016-17: four structures 2017-18 and future years: TBD as based on long-term plans	
	Operate Fuel Packaging and Storage Facility and transfer fuel from tile holes (Chalk River site).	Target-residue material shipments completed in 2019 Fuel rods shipments completed in 2021.	
	Contract awarded for the design and construction of the Stored Liquid Waste Cementation project		2016-17: Transfer fuel from 10 tiles holes 2017-18 and future years: TBD
			31 March 2017

2. Port Hope Area Initiative

Encompasses all activities associated with the initiative to clean up historic low-level radioactive waste situated in the municipalities of Port Hope and Clarington. The objective is to safely manage approximately 1.7 million cubic metres of historic low-level radioactive waste and contaminated soils. Advanced facilities for the long-term management of the wastes will be constructed and will receive waste from existing waste management facilities in the host communities, as well as other wastes which are dispersed in the local area.

Focus for CNL in the 2016-17 fiscal year will be placed on the award of major contracts to complete a radiological survey of properties in Port Hope, undertake remediation work and construct and operate a long-term waste management facility in each community.

Measures of success include:

Outcome	Performance measure	Target
The Port Hope Area Initiative is delivered efficiently and effectively in order to reduce AECL's liability.	PHAI milestones are completed on or ahead of schedule	2016-17: Port Hope waste water treatment plant declared to be in service 2016-17: Award contract for construction and operation of the Port Hope long-term waste management facility Following years: 2019-20: Port Hope and Port Granby waste management facilities constructed and major sites remediation completed

3. Low-level Radioactive Waste Management Office

Includes all activities to address and manage historic low-level waste at sites in Canada for which the Government has assumed responsibility (excluding the Port Hope Area Initiative). This includes ongoing interim waste management and remediation projects across Canada. In 2016-17, AECL will be looking to CNL to provide a preliminary assessment of the liability cost estimate associated with these activities in order to satisfy itself that it appropriately captures the liabilities for which it has assumed responsibility.

Measures of success include:

Outcome	Performance measure	Target
Activities associated with the Low-level Radioactive Waste Management Office are delivered efficiently and effectively in order to address AECL's responsibility.	CNL completes preliminary historic low-level radioactive waste liability cost estimate for non-Port Hope sites	January 2017

4. *Target-cost project for the closure of the Nuclear Power Demonstration reactor site*

Captures the activities to decommission the Nuclear Power Demonstration facility located in Rolphton, Ontario. Plans to close the site are based on the bid that was accepted by Canada as part of the procurement process to implement a GoCo model. As such, CNL will be implementing the plans proposed by Canadian National Energy Alliance, which include planning and seeking regulatory approval for in situ disposal of the reactor. CNL has started preliminary engagement of the regulator and stakeholders on this proposal; in 2016-17 AECL will be looking for additional plans and engagement activities in that respect.

Measures of success include:

Outcome	Performance measure	Target
The Nuclear Power Demonstration reactor is successfully decommissioned and the site is closed in order to reduce AECL's liability	CNL completes preliminary historic low-level radioactive waste liability cost estimate for non-Port Hope sites	September 2017
	CNL's stakeholder engagement lead to the acceptance of the environmental assessment and the issuance of a licence for in situ disposal	April 2019
	Canadian Nuclear Safety Commission issues licence to abandon or otherwise accepts as completed all active decommissioning and waste management activities, with only long-term care activities remaining	2021

5. *Target-cost project for the closure of the Whiteshell Laboratories*

Includes all activities to decommission and close the Whiteshell Laboratories site located in Pinawa, Manitoba. The Whiteshell site is the second largest of AECL's sites operated by CNL. It was established by the Government of Canada in 1963 as an AECL research laboratory. The focus of research was on the largest organically cooled, heavy water moderated nuclear reactor in the world, the WR-1. Facilities also included a SLOWPOKE reactor as well as shielded hot cell facilities and other nuclear research laboratories. The site also includes a radioactive waste management area which serves to provide interim storage of radioactive waste for the Whiteshell site which was created as a result of the operations of the research reactor and nuclear laboratories.

In 1998, the Government announced the closure of the Whiteshell Laboratories, and decommissioning activities have been underway since then. With the implementation of the GoCo model, CNL has proposed to accelerate and complete the decommissioning of the site by 2024, well ahead of the previous schedule. The acceleration of the decommissioning of the site is based on the bid that was accepted by Canada as part of the procurement process, and includes proposals for in situ disposal of the reactor. CNL has started preliminary engagement of the regulator and stakeholders on this proposal; in 2016-17 AECL will be looking for additional plans and engagement activities in that respect.

Measures of success include:

Outcome	Performance measure	Target
The Whiteshell Laboratories site is successfully decommissioned and the site is closed in order to reduce AECL's liability	Canadian Nuclear Safety Commission issues licence renewal to continue site decommissioning	2018
	CNL's stakeholder engagement leads to the acceptance of the revised environmental assessment which allows for in situ disposal of the WR-1 reactor	2019
	Waste retrieval completed for all the standpipes in the waste management area	2022
	All High Level Waste/Fuel removed and transported to the Chalk River Laboratories	2022
	Canadian Nuclear Safety Commission issues licence to abandon or otherwise accepts as completed all active decommissioning and waste management activities, with only long-term care activities remaining	2024

In addition, CNL will continue to provide services to third parties for the handling, storage and disposal of radioactive waste, for example waste from hospitals and universities. These activities are delivered on a full cost-recovery basis and do not require government funding.

Measures of success include:

Outcome	Performance measure	Target
Commercial waste management advisory services and technical expertise are offered to external customers	CNL accepts radioactive waste from small waste and technical expertise generators on a fee-for-services basis.	Full cost-recovery of CNL services

The budget related to the priority 'Fulfill Canada's Radioactive Waste and Decommissioning Responsibilities' is as follows:

Decommissioning and Waste Management Five-Year Projection of Funding Requirements - Cash

(\$ millions)	Actual 2014-15	Budget 2015-16	Plan					5-year Total
			2016-17	2017-18	2018-19	2019-20	2020-21	
Decommissioning and Waste Management								
Total Decommissioning and Waste Management	235	231	416	521	582	601	490	2,609
Revenue	2	1	2	1	1	1	1	6
Federal Funding Requirement	233	230	413	520	581	600	489	2,602

Note: Minor differences due to rounding.

Nuclear Laboratories

Priority: Grow CNL's Science and Technology Stature

The objective is to provide nuclear science and technology in order to sustain and develop Canada's capabilities in a cost-effective manner. CNL will focus activities under two streams: 1) delivering the Federal Nuclear Science and Technology Work Plan, and, 2) providing technical services and research and development products for third parties on a commercial basis. CNL will also operate the National Research Universal reactor until March 31, 2018, as announced by the Government in February 2015.

In the near term, AECL will be focussing on the effective and efficient delivery of nuclear science and technology services by CNL, including an increase in commercial revenues and a reduction of the administrative and management cost (overhead) of its programs. AECL will also look to CNL to leverage partnerships and collaboration with academia, government, industry and the scientific community to maintain the profile and relevance of the laboratories. In particular, CNL will be developing a long-term plan outlining its strategic approach to delivering an integrated, effective, project-based and customer-focussed science and technology mission that serve the needs of the federal government as well as those of external customers. The integration of this plan with CNL's long-term capital plan will be critical to allow for the alignment of science and technology needs – both in the short and long-term – with the facilities that are planned to be built or refurbished in the coming years as the Chalk River site is being revitalized.

1. Federal Nuclear Science and Technology Work Plan

AECL will continue to oversee the delivery of the Federal Nuclear Science and Technology Work Plan in order to support the Government's priorities and core responsibilities in areas such as nuclear safety, security, non-proliferation, counter-terrorism, energy, health, environmental protection, and emergency response. AECL engaged with federal departments and agencies to develop a program of work that meets broad federal needs and priorities while ensuring value for money for Canada.

As a result of this engagement, AECL's Federal Nuclear Science and Technology Work Plan focuses on five research themes and activities: (1) supporting the development of biological applications and understanding the implications of radiation on living things, (2) enhancing national and global security by supporting non-proliferation and counter-terrorism, (3) nuclear preparedness and emergency response, (4) supporting safe, secure and responsible use and development of nuclear technologies, and (5) supporting environmental stewardship and radioactive waste management.

For 2016-17, CNL will execute activities aimed at supporting Canada's priorities identified by the federal interdepartmental committees and aligned with the Federal Nuclear Science and Technology Work Plan. In the near term, these activities are focused on understanding the biological and environmental effects of radiation exposure, maintaining our nuclear non-proliferation and emergency response capabilities, and advancing reactor and fuel cycle concepts for the future of the nuclear industry.

Measures of success include:

Outcome	Performance measure	Target
Federal priorities are met on time and with a high standard of quality	Research projects as set out in the Federal Nuclear Science and Technology Work Plan are delivered on time and with high quality Impact of science and technology based on feedback from federal customers	Full cost-recovery of CNL services Based on project reviews and assessment or other documents produced by government.

2. Science and technology for commercial purposes

CNL will continue to provide commercial services to third parties and is expected to grow commercial margins, in order to both build nuclear science and technology stature and to reduce overall site and overhead costs for Government. The objective is to leverage the assets and capabilities of CNL to undertake commercial work on at least a full cost-recovery basis (covering both the cost of sales as well as indirect and other administrative and site support costs). As CNL grows its revenues, these will serve to further grow CNL's science and technology capabilities, with intended benefits for Government and Canadians.

In particular, AECL will be looking to CNL to grow its commercial revenues as based on its Strategic Business Development Plan. This should include, a longer-term assessment of CNL's current and future capabilities taking into account internal and external factors, market trends, as well as the broader long-term vision for CNL. Growth in commercial revenue will be critical in order to replace revenues from isotope production that have significantly diminished based on routine production of the key medical isotope molybdenum-99 (Mo-99) stopping by October 2016.

In 2016-17 specifically, AECL will oversee CNL's activities in engaging and responding to existing customers' requests and tapping into new nuclear markets.

Measures of success include:

Outcome	Performance measure	Target
Grow commercial opportunities for the laboratories	Increase in commercial revenues from new or emerging customers	Revenues from new or emerging customers is more than \$10M

3. National Research Universal Reactor

CNL will continue to safely operate the National Research Universal (NRU) reactor until March 2018. This includes performing research activities, as well as producing medical and industrial isotopes. The routine production of the key medical isotope Mo-99 will cease in October 2016, consistent with the Government's medical isotope strategy. However, as announced in February 2015, the reactor will retain the capacity to produce Mo-99 until March 2018, to be used only in the unexpected circumstance where worldwide production is not sufficient to meet demand. After March 2018, the reactor will be put in a safe shutdown state.

The objective for the period leading up to March 2018 is to maximize the use of the NRU, particularly for a variety of S&T activities and the production of isotopes other than Mo-99. AECL will be looking to CNL in 2016-17 to operate the reactor to its full capacity in a safe and cost effective manner. CNL will also be developing plans to prepare for the reactor shutdown. Retaining the appropriate capacity and workforce to operate safely and prepare shutdown plans will be critical for CNL.

Measures of success include:

Outcome	Performance measure	Target
CNL transforms ongoing nuclear operations and prepares for the shutdown of the NRU.	High quality NRU Shutdown Transition Project Execution Plan developed and submitted to AECL	31 January 2017
	CNL implements Retain-Retrain-Redeploy initiative for NRU employees and other affected	December 2018
The NRU reactor and related experimental and production facilities are maintained in order to deliver research projects up to the March 2018 shutdown	NRU operations are maximized	NRU operates at high power for at least 228 days during 2016-17

Priority: Transform the Operations of CNL

The objective is to leverage the expertise and global experience brought about by Canadian National Energy Alliance to transform CNL's operations to increase efficiencies and value for money. This includes reviewing existing processes and procedures to ensure safety, efficiency and effectiveness in day-to-day operations. AECL will be looking to CNL's new management to right-size the organization to ensure that resources are properly allocated, with resources retrained and redeployed to priority areas as required.

CNL's vision is to achieve a cost-effective, modern campus-like site with new and refurbished facilities to support the future growth of CNL. AECL will be expecting to CNL to deliver on its commitments to meet the requirements of the federal needs in science and technology, grow commercial revenues, and reduce decommissioning and waste management liabilities, while maintaining safe operations. CNL will be developing long-term plans for targeted and strategic capital investments that will allow the laboratories to grow the unique compliment of science and technology capabilities, while remaining flexible to quickly adapt to the evolutionary opportunities of nuclear and energy-related, leading edge innovation. In 2016-17, AECL will be looking to CNL to deliver on important capital projects that are already underway, and to plan for new projects as part of their larger strategy to revitalize the site.

Furthermore, 2016-17 will be an important year for many transformation initiatives that are planned or underway at CNL. AECL will be looking to CNL to transform its overall management and operation by leveraging its capabilities and resources, including optimizing support functions and integrating the various missions to meet Good Industry Practice and enhance CNL's project execution and safety performance. AECL will also expect CNL to leverage the expertise and experience of its parent companies and review the CNL's overall planning and management framework, develop integrated, long-term plans for decommissioning and waste management and the nuclear laboratories, and provide effective financial management.

Measures of success include:

Outcome	Performance measure	Target
Management and operations (including nuclear operations) of CNL are transformed to enhance efficiency and reduce costs	Reduction in CNL indirect costs	10% reduction as measured against an agreed upon baseline established from 2015/16 actuals
	CNL provides a revised Management System Manual submitted to Canadian Nuclear Safety Commission	2019-20
CNL's project and safety performance is improved	Improved health, safety, security and environmental performance relative to good industry practice	TBD – to be benchmarked against industry standards
CNL's company-wide security posture and performance is improved	Planned physical security upgrades, IT system upgrades are completed as per milestones established in the 2016-17 Annual Program	As per milestones and targets included in the Annual Program of Work and Budget and/or Capital Plan
	Improved security performance	Annual reduction in security breaches (physical, cyber), reduction in reportable events to the regulator, through annual CNSC performance ratings for CNL sites, and CNSC ratings of major training exercises, etc.
CNL delivers 5 and 10 year plans that integrate its vision for the site and enable a revitalization of the Chalk River Laboratories	CNL delivers 5-year Strategic Plan and 10-year Plans	September 2016
	CNL delivers an integrated baseline across all missions (the baseline will be the basis for performance reporting going forward through the Earned Value Management System)	March 2017 Integrated baseline to be at maturity level III (as per the American National Standards Institute/ Electronic Industries Alliance standard 748)
CNL delivers infrastructure projects in support of a long-term vision for the Chalk River Laboratories	CNL completes infrastructure projects on time and on budget, as set out in the Annual Program of Work and Budget	As per Annual Program of Work and Budget

Nuclear Laboratories Five-Year Projection of Funding Requirements - Cash

(\$ millions)	Actual 2014-15	Budget 2015-16	Plan					5-year Total
			2016-17	2017-18	2018-19	2019-20	2020-21	
Nuclear Laboratories								
Total Nuclear Laboratories	441	520	531	544	481	446	399	2,401
Revenue	84	98	61	69	63	58	57	308
Federal Funding Requirement	357	422	470	475	418	388	342	2,093

Note: Minor differences due to rounding.

The anticipated decreased revenue shown in the above table is due in part to an anticipated decline in sales of isotopes given the end of the routine production of Mo-99 from the NRU reactor in October 2016, and the permanent shutdown of the reactor in March 2018. This is expected to lead to decreased revenues starting in 2016-17 and going into 2017-18. As noted above, this is consistent with the Government's medical isotope strategy, and the reactor will retain the capacity to produce Mo-99 until March 2018, to be used only in the unexpected circumstance where worldwide production is not sufficient to meet demand.

Generally speaking, AECL anticipates that CNL will increase overall revenues in the area of science and technology. Revenue projections for 2016-17 are based on CNL's Annual Program of Work and Budget and those for subsequent years are based on previous plans. As CNL develops longer-term strategies, it is expected that revenue projections will be revised in the Corporate Plan Summary to reflect CNL's new plans for transformation and increased commercial activities.

Other Areas of Focus

AECL will also continue to address outstanding obligations arising from its CANDU Reactor Division (discontinued commercial operations), the assets of which were sold in October 2011. This includes the commercial and legal work required to defend, assert and settle outstanding claims as delivered by the Wrap-up Office.

Annex A – Consolidated Financial Statements

This section presents AECL's financial statements reflective of AECL's role under the GoCo model. As this financial reporting structure only began in 2015-16, amounts for previous years have been adjusted for comparison purposes.

Under the new GoCo model, AECL receives funding from the Government of Canada to deliver on commitments, priorities and objectives related to nuclear science and technology, decommissioning and waste management, as well as the revitalization of the Chalk River Laboratories site. CNL manages and operates AECL's sites and undertakes the necessary activities to respond to AECL priorities as per its contractual arrangement with AECL. Any third-party revenues that CNL generates accrue to AECL.

Important and notable changes during the planning period are the planned shutdown of the NRU reactor in March 2018 as well as the end of the routine production of the key medical isotope Mo-99 in October 2016.

As was noted in the previous section of this Corporate Plan Summary, as CNL develops longer-term plans to achieve AECL objectives, funding profiles may change once plans are accepted by AECL. This will be reported in subsequent Corporate Plan Summaries.

Government of Canada Funding

As presented in the previous section, AECL delivers on important priorities of the Government with respect to nuclear science and technology and decommissioning and waste management. The Government is also investing in the renewal of the Chalk River Laboratories, to ensure safe and reliable operations, as well as infrastructure that is necessary to sustain, develop, apply and build science and technology capabilities in a cost effective manner. Government funding includes funding for capital investments, however, such funding is deferred and recognized coincident with the amortization of the related assets.

Furthermore, the Government provides funding to AECL to address outstanding obligations arising from its CANDU Reactor Division (discontinued commercial operations).

Revenue from third-party work is recognized by AECL as principal. Revenue generated comes from CNL's work to support the nuclear energy industry, isotope production, the sale or lease of heavy water, and research and development services provided to third-parties.

Consolidated Statements of Comprehensive Funding/Revenue – Cash

(\$ millions)	Actual 2014-15	Budget 2015-16	Plan				5-year Total	
			2016-17	2017-18	2018-19	2019-20 2020-21		
AECL								
Parliamentary Appropriations/ Funding – Operating	408	464	689	806	830	828	671	3,823
Parliamentary Appropriations/ Funding – Capital	92	141	154	160	160	160	160	794
Revenue	131	144	104	99	73	59	58	393
Total AECL	631	749	947	1,065	1,062	1,047	889	5,009
Discontinued Operations								
Parliamentary Appropriations/ Statutory Funding	36	–	–	–	–	–	–	–
Total Funding/Revenue	667	749	947	1,065	1,062	1,047	889	5,009

Note: Minor differences due to rounding.

Consolidated Statements of Comprehensive Income (Loss) – Accrual

(\$ millions – accrual)		Actual 2014-15	Budget 2015-16	Plan					5-year Total
				2016-17	2017-18	2018-19	2019-20	2020-21	
Revenue	¹	141	107	68	70	64	59	58	318
Cost of sales	²	84	59	37	38	35	32	32	175
Gross Margin		57	48	30	31	29	26	26	143
Other funding	³	209	–	–	–	–	–	–	–
Operating expenses	⁴	393	13	17	17	17	17	17	85
Contractual expenses	⁵	–	312	327	332	273	241	194	1,367
Operating loss		(126)	(277)	(314)	(318)	(261)	(231)	(185)	(1,309)
Financial income	⁶	6	7	6	3	2	2	2	14
Financial expenses	⁷	220	207	199	194	188	181	172	934
Net loss before Parliamentary appropriations and Revaluation gain (loss) on decommissioning and waste management provision and other		(339)	(476)	(507)	(509)	(448)	(410)	(356)	(2,230)
Parliamentary appropriations	⁸	221	464	689	806	830	828	671	3,823
Net income (loss) before Revaluation gain (loss) on decommissioning and waste management provision and other		(118)	(11)	182	296	382	417	315	1,593
Revaluation gain (loss) on decommissioning and waste management provision and other	⁹	(2,186)	–	–	–	–	–	–	–
Net income (loss) from continuing operations before discontinued operations		(2,304)	(11)	182	296	382	417	315	1,593
Operating (loss) income from discontinued operations		4	(13)	(7)	(3)	–	–	–	(10)
(Loss) income from discontinued operations before Parliamentary appropriations		4	(13)	(7)	(3)	–	–	–	(10)
Parliamentary appropriations for discontinued operations		36	–	–	–	–	–	–	–
Net (loss) income from discontinued operations		40	(13)	(7)	(3)	–	–	–	(10)
Net income (loss)		(2,264)	(24)	175	293	382	417	315	1,583
Other employee benefit plan actuarial (loss) gain		(1)	–	–	–	–	–	–	–
Comprehensive income (loss)		(2,265)	(24)	175	293	382	417	315	1,583

¹ Revenue for the 5 year plan has been adjusted for heavy water cash proceeds (China and Bruce lease) as these sales have been recorded previously.

² Assumed Margin of 45%.

³ Commencing with FY15/16, Other funding will be provided directly to AECL through Parliamentary appropriations.

⁴ These amounts represent AECL's operating expenses.

⁵ Contractual expenses includes payments to CNL and the contractor.

⁶ Financial income includes interest earned on investments held in trust for plan years.

⁷ Financial expenses represent the accretion expense on the decommissioning and waste management provision.

⁸ Parliamentary appropriations include funding requirements less capital.

⁹ The Revaluation gain (loss) on decommissioning and waste management provision and other represents interest rate adjustments to the provision.

The projected decrease in revenues is related to the decline of sales of medical isotopes as the National Research Universal reactor ceases routine production of the key medical isotope Mo-99 in October 2016, and subsequently shuts down in March 2018. As CNL develops its business development and commercial operations, and through AECL's approval of CNL's upcoming long-term plans, future years' planned revenues may be adjusted. This will be reflected in subsequent Corporate Plan Summaries.

Parliamentary appropriations are expected to increase in line with expenditures. The appropriations will be used to cover additional spending that is planned in Decommissioning and Waste management.

Condensed Consolidated Balance Sheets - Accrual

(\$ millions)	Actual 2014-15	Budget 2015-16	Plan				
			2016-17	2017-18	2018-19	2019-20	2020-21
Assets							
Current							
Cash	45	30	23	20	20	20	20
Trade and other receivables	63	40	40	40	40	40	40
Current portion of long-term receivables	31	33	28	7	0	0	0
Inventory	26	7	7	7	7	7	7
	165	110	98	74	67	67	67
Non Current							
Long-term receivables	69	36	7	0	0	0	0
Long-term disposal of radioactive waste fund	0	6	7	19	31	43	55
Investments held in trust	48	50	53	56	59	62	65
Heavy water inventory	221	213	211	209	207	205	203
Property, plant and equipment	417	566	730	886	1,042	1,198	1,354
Total Assets	920	981	1,106	1,244	1,406	1,575	1,744
Liabilities							
Current							
Trade and other payables	118	96	90	101	111	116	120
Customer advances and obligations/Provisions	23	15	15	15	5	5	5
Current portion DWM provisions	230	231	299	285	350	372	412
	370	342	404	401	466	493	537
Non Current							
Decommissioning and waste management provision	9,745	9,699	9,426	9,125	8,679	8,249	7,903
Deferred capital funding	372	521	685	841	997	1,153	1,309
Deferred decommissioning and waste management funding	221	245	270	288	294	294	294
Employee benefits	29	37	34	33	32	31	30
Total Liabilities	10,737	10,844	10,818	10,688	10,468	10,220	10,073
Shareholder's deficit							
Share capital	15	15	15	15	15	15	15
Contributed capital	208	186	161	136	136	136	136
Deficit	(10,040)	(10,064)	(9,888)	(9,595)	(9,213)	(8,796)	(8,480)
	(9,817)	(9,863)	(9,712)	(9,444)	(9,062)	(8,645)	(8,329)
Total Liabilities & Shareholder's Deficit	920	981	1,106	1,244	1,406	1,575	1,744

The decreased cash starting in 2017-18 reflects the minimum expected balance that AECL is going to carry.

Long-term receivables primarily relate to the Qinshan heavy water sale-type lease, which is payable to AECL over the lease period. AECL will, consistent with past practice, continue to utilize heavy water proceeds received throughout the plan period to fund operations and to report the proceeds as deferred decommissioning funding.

The long-term disposal of radioactive waste fund will increase as AECL sets aside funding to account for future liabilities in ongoing waste operations.

Property, plant and equipment is expected to increase in line with increased investment in infrastructure at the Chalk River site, as reflected by the important funding provided for revitalizing the Chalk River Laboratories in the coming years (\$800 million over five years, 2016-17 to 2020-21). As a result of this increase in Property, plant and equipment, Deferred capital funding will increase. This account sets aside the funding received by AECL for Property, plant and equipment so that it can be amortized similar to the asset.

The Decommissioning and Site Remediation provision represents the future obligation to address waste management and decommissioning liabilities. The liability is expressed in terms of the net present value of future expenditures required to discharge the obligation. AECL's Decommissioning and Site Remediation provision is adjusted annually to reflect progress to date, new estimates as they become available and new waste liabilities arising from ongoing CNL operations. The year-over-year change in this account represents the increase in the net present value with the passage of time offset by the reduction in the liability from the spending incurred each year.

Changes to the liability may occur in future years once CNL's long-term plans are accepted by AECL. This planning exercise may lead to a re-organization of projects and activities, which could impact the value of the liability, including the net present value. However, as work is undertaken, which is expected at a higher rate in the coming years, the liability will be decreasing. This will be confirmed through upcoming long-term plans. As the Decommissioning and Site Remediation provision decreases, so will AECL's overall negative equity and the Shareholder's deficit.

Furthermore, starting in 2015-16, a portion of the funding or revenues related to ongoing operations which create decommissioning and waste management liabilities (e.g. ongoing operations such as nuclear science and technology activities) is set aside in order to account for future liabilities. This is accounted for in the Decommissioning and Site Remediation provision.

Accounting Standards require that the liability be re-valued using the reference interest rate in effect at the end of the year. This can result in significant increases or decreases in the value of the liability but does not represent a current cash flow requirement from the Government. The above projections do not attempt to capture the impact of potential future interest rate changes will have on the reported liability.

Deferred Decommissioning and Waste Management Funding represents the proceeds of the long-term receivable pertaining to the heavy water lease, as noted above. The Contributed capital balance relates to historical heavy water funding provided by the government. As certain heavy water proceeds are received this balance will decline.

Deficit changes are largely reflective of changes in comprehensive income.

Condensed Consolidated Cash Flow Statements – Accrual

(\$ millions – accrual)	Actual 2014-15	Budget 2015-16	Plan				5-year Total	
			2016-17	2017-18	2018-19	2019-20		2020-21
Operating Activities								
Net Cash Flow Before Revenue & Funding	(584)	(610)	(793)	(905)	(902)	(887)	(729)	(4,216)
Revenue	131	144	104	99	73	59	58	393
Funding/Parliamentary Appropriations	501	605	843	966	990	988	831	4,616
Discontinued Operations Net Cash Flow Before Funding	(28)	(13)	(7)	(3)	–	–	–	(10)
Discontinued Operations Parliamentary Appropriations	36	–	–	–	–	–	–	–
	55	126	147	157	160	160	160	784
Investing Activities								
Acquisition of Capital Assets	(92)	(141)	(154)	(160)	(160)	(160)	(160)	(794)
	(92)	(141)	(154)	(160)	(160)	(160)	(160)	(794)
Net Cash Flow	(37)	(15)	(7)	(3)	–	–	–	(10)
Beginning Cash	82	45	30	23	20	20	20	
Ending Cash	45	30	23	20	20	20	20	

NOTE: Numbers in above table are presented on a cash flow basis

Note: Minor differences due to rounding.

The difference between the revenues presented in the 'Consolidated Statements of Comprehensive Income (accrual)' statement on page 31 and the above 'Condensed Consolidated Cash Flow Statements (cash)' relate to differences in heavy water revenues. As noted in the comprehensive income table, income related to China and Bruce Power heavy water lease has been excluded due to the fact that the revenue for the sales has been recorded in prior periods. However, the cash proceeds are recognized by AECL as a cash inflow for the year.

The overall negative net cash flow is the result of the activities related to AECL's discontinued operations, which are drawing down on their existing cash balance rather than receiving new funding.

Annex B – 2016–17 Operating Budget

Revenue and Net Income – Accrual

<i>(\$ millions)</i>	Actual 2014-15	Budget 2015-16	Plan 2016-17
Revenue	141	107	68
Cost of sales	84	59	37
Gross Margin	57	48	30
Other funding	209	–	–
Operating expenses	393	13	17
Contractual expenses	–	312	327
Operating loss	(126)	(277)	(314)
Financial income	6	7	6
Financial expenses	220	207	199
Net loss before Parliamentary appropriations and Revaluation gain (loss) on decommissioning and waste management provision and other	(339)	(476)	(507)
Parliamentary appropriations	221	464	689
Net income (loss) before Revaluation gain (loss) on decommissioning and waste management provision and other	(118)	(11)	182
Revaluation gain (loss) on decommissioning and waste management provision and other	(2,186)	–	–
Net income (loss) from continuing operations before discontinued operations	(2,304)	(11)	182
Operating (loss) income from discontinued operations	4	(13)	(7)
(Loss) income from discontinued operations before Parliamentary appropriations	4	(13)	(7)
Parliamentary appropriations for discontinued operations	36	–	–
Net (loss) income from discontinued operations	(40)	(13)	(7)
Net income (loss)	(2,264)	(24)	175
Other employee benefit plan actuarial (loss) gain	(1)	–	–
Comprehensive income (loss)	(2,265)	(24)	175

Note: Minor differences due to rounding.

Government of Canada Planned Funding - Operating - Cash

(\$ millions)	Actual 2014-15	Budget 2015-16	Plan					5-year Total
			2016-17	2017-18	2018-19	2019-20	2020-21	
AECL								
Decommissioning and waste management	233	230	413	520	581	600	489	2,602
Nuclear Laboratories	265	281	316	315	258	228	182	1,299
Total Government Funding AECL - Operating	498	511	730	835	839	828	671	3,901
Discontinued Operations - Wrap Up Office	36	-	-	-	-	-	-	-
Funded through Heavy Water Proceeds	48	47	41	29	9	-	-	79
Adjusted Overhead Allocation	42	-	-	-	-	-	-	-
Consolidated Government Funding	445	464	689	806	830	828	671	3,823

Note minor differences due to rounding.

Decommissioning and waste management funding is expected to increase initially due to increased spending concentrating mostly on the Port Hope Area Initiative. Science and Technology funding is expected to decline as a result of the planned shutdown of the NRU reactor in March 2018.

Cash Flow – Cash

(\$ millions)	Actual 2014-15	Budget 2015-16	Plan 2016-17
Operating Activities			
Net Cash Flow Before Revenue & Funding	(584)	(610)	(793)
Revenue	131	144	104
Funding/Parliamentary Appropriations	501	605	843
Discontinued Operations Net Cash Flow Before Funding	(28)	(13)	(7)
Discontinued Operations Parliamentary Appropriations	36	-	-
	55	126	147
Investing Activities			
Acquisition of Capital Assets	(92)	(141)	(154)
	(92)	(141)	(154)
Net Cash Flow	(37)	(15)	(7)

Note: Minor differences due to rounding.

Numbers are presented on a cash flow basis.

The 2016 17 Net Cash Flow before Revenue and Funding is approximately \$183 million lower than budgeted for 2015 16. This is due mostly to a \$6 million decrease in the Wrap Up Office, an increase of \$30 million in capital expenditures, as well as an increase in the Decommissioning and Waste Management program related to the Port Hope Area Initiative and general decommissioning and waste management. Cash flow from Funding/parliamentary appropriations is expected to increase in line with the above-mentioned increased expenditures.

Annex C – Capital Budget for 2016–17

AECL's Capital Plan is based on CNL's 2016-17 Capital Plan, which has been developed from CNL's assessment of infrastructure needs, including consideration for health, safety, security and environmental risks, current facility conditions, regulatory requirements and business needs. As a result, all investments are meant to renew and revitalize the Chalk River site to address deficiencies created by reduced level in capital investment from previous years, as assessed by CNL and approved by AECL.

In 2016-17, CNL will be preparing 5- and 10-year plans to set out the long-term vision to revitalize the Chalk River Laboratories, for acceptance by AECL. As such, future years' plans will be adjusted to reflect this longer-term vision.

The Capital Plan is meant to address two main areas of focus:

1. Site Infrastructure – Immediate investments required to renew existing and ageing municipal-like infrastructure systems and facilities at the Chalk River Site, such as potable water, storm sewer, sewage and electrical. These are necessary to respond to regulatory and health, safety, security and environmental requirements, as well as to maintain overall site operational capability.
2. Ongoing Recapitalization – Consistent with industry best practices, these investments are part of a longer-term plan to recapitalize the site and align capabilities with business needs.

Government of Canada Funding – Capital – Cash

(\$ millions)	Actual 2014-15	Budget 2015-16	Plan					5-year Total
			2016-17	2017-18	2018-19	2019-20	2020-21	
AECL								
Capital	92	141	154	160	160	160	160	794
Total Government Funding - Capital	92	141	154	160	160	160	160	794

Note: Minor differences due to rounding.

Annex D – Corporate Governance

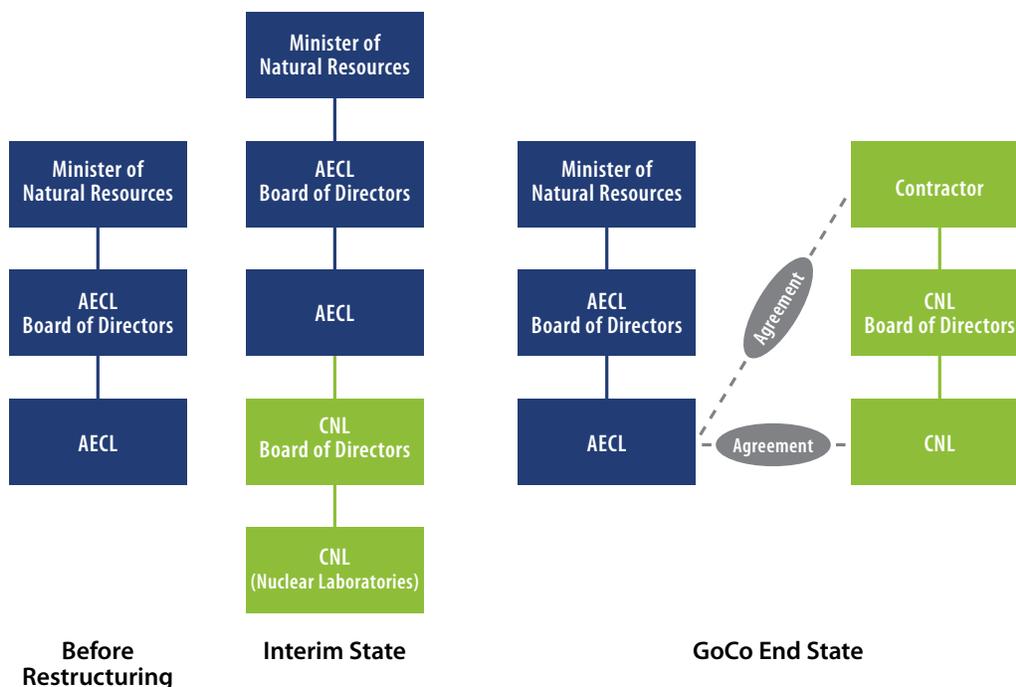
The GoCo model fundamentally changed the governance structure of AECL. Whereas it used to be directly responsible for all of the activities at its sites and for directing the work to advance its missions, AECL is now providing oversight of a long-term contractual arrangement with a private-sector contractor for the management and operation of CNL. Fiscal year 2016-17 will be the first full year of operation under this model. As was noted above, AECL's sphere of influence and main means of driving performance is by ensuring that CNL's plans are appropriate and by applying proper financial incentives to achieve priorities.

AECL's transformation was done in two phases. The first phase, completed in November 2014, consisted of creating and operationalizing CNL as a wholly-owned subsidiary of AECL. Through an internal reorganization, virtually all of AECL's employees were transferred to CNL and all of the necessary licences, permits and other authorizations were transferred to CNL, allowing it to become the operator of the nuclear laboratories and the employer of the workforce. AECL then undertook to re-build itself as a small, expert-based Crown corporation and put in place policies, processes and procedures to allow it to assume its new role.

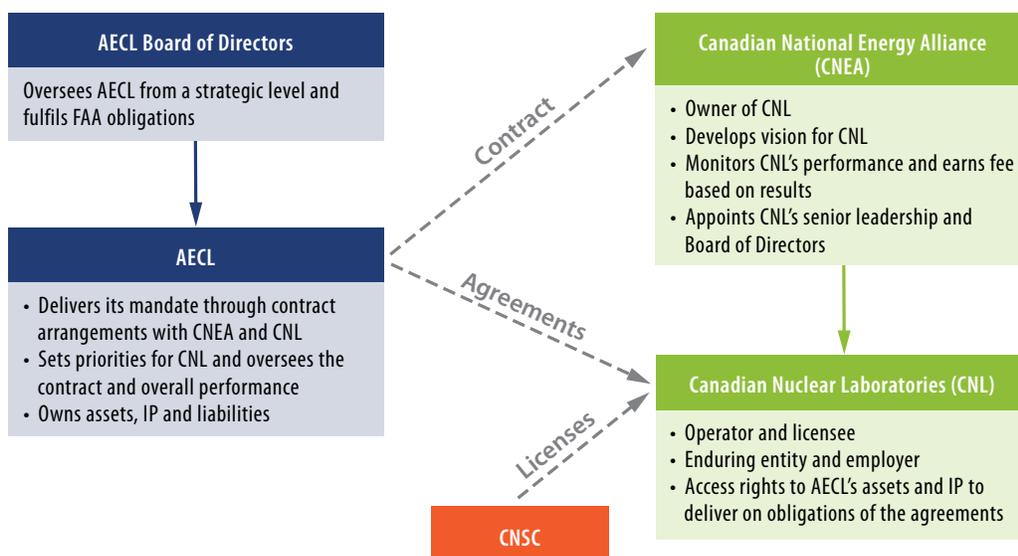
Following a procurement process led by Natural Resources Canada with support from Public Works and Government Services Canada, Canadian National Energy Alliance was selected as the preferred bidder to manage and operate CNL. Once AECL transferred the shares of CNL to Canadian National Energy Alliance, CNL became a private-sector organization. AECL then assumed its new oversight role, being responsible to ensure value for money and the achievement of its priorities through the contractual arrangements with Canadian National Energy Alliance and CNL.

This governance transition, including the interim state, is depicted in the figure below.

AECL's Executive Governance Structure and Transition to the Government-owned, Contractor-operated model



Government-owned, Contractor-operated Governance Overview



AECL's Internal Governance Structure

Board of Directors

AECL is governed by a Board of Directors, which provides strategic direction and advice to the President and Chief Executive Officer. The Board, through its Chair, receives direction from the Corporation's single Shareholder, the Government of Canada, as represented by the Minister of Natural Resources. It is accountable to Parliament through the Minister of Natural Resources.

As at March 2016, the Board consists of four Directors who represent the Canadian business and science and technology communities. AECL's Directors, the Chair of the Board (position currently vacant) and the President and CEO (position currently vacant) are appointed by the Government of Canada by Order-in-Council. A list of Board members, along with their term expiry date, is presented below.

Dr. Claude Lajeunesse

Appointed to Board, March 2005

Reappointed January 2015 – ending December 2015 (incumbent directors continue in office until their successors are appointed)

Former Chair of the Board for the Green Aviation Research & Development Network; President and CEO of the Aerospace Industries Association of Canada and the Association of Universities and Colleges of Canada; President and Vice Chancellor of Concordia University in Montreal and Ryerson University in Toronto. Past Board member of TD Insurance; Canada Science and Technology Museums Corporation Foundation; SOFINOV (Caisse de dépôt et placement du Québec) and of the Toronto East General Hospital. Holds a PhD in nuclear engineering from Rensselaer Polytechnic Institute in New York.

Committees: Human Resources & Governance (Chair)

Gregory Josey

Appointed to Board, March 2013

Reappointed January 2015 – ending December 2015 (incumbent directors continue in office until their successors are appointed)

Former Vice President, Finance, and Chief Financial Officer at McNeil Consumer Healthcare, Johnson & Johnson Inc., and Johnson & Johnson – Merck Consumer Pharmaceuticals; Officer and Director of Johnson & Johnson Inc. Canada; Chair of Johnson & Johnson Canadian CFO Council and member of the Ontario CNIB Advisory Board. Holds an H.B.B.A. from Wilfred Laurier University and is a Chartered Professional Accountant.

Committees: Audit (Chair)

Bob Hamilton

Appointed to Board December 2014 – ending December 2015 (incumbent directors continue in office until their successors are appointed)

Deputy Minister, Natural Resources Canada. Former Deputy Minister of the Environment; Former Senior Associate Secretary of the Treasury Board and Lead on the Canada-United States Regulatory Cooperation Council; Former Associate Deputy Minister of the Environment; Former Associate Secretary of the Treasury Board. Occupied senior positions at Finance Canada, including Senior Assistant Deputy Minister of the Tax Policy Branch and Assistant Deputy Minister of Financial Sector Branch. Holds a Bachelor of Arts (Economics) and Masters of Economics from the University of Western Ontario.

James Hall

Appointed to Board August 2013

Reappointed December 2014 – ending December 2015 (incumbent directors continue in office until their successors are appointed)

Vice President of Callidus Capital Corporation. President and CEO of James Hall Advisors Inc. Current governance – a director of Immunovaccine Inc. and a trustee of an OMERS Trust. Former Chairman and Chief Executive Officer of Journal Register Company, Senior Vice President & Chief Investment Officer of Working Ventures Canadian Fund Inc., and Senior Vice President of Lloyds Bank Canada. A Chartered Accountant, Mr. Hall holds an H.B.A. from the Richard Ivey School of Business at Western University.

Committees: Audit and Human Resources & Governance

There are two committees that support the Board: the Audit Committee and the Human Resources and Governance Committee. The Audit Committee has a mandate to oversee the external and internal auditors, direct the internal audit function and assess the adequacy of AECL's business systems, practices and financial reporting, in accordance with the *Financial Administration Act*. The Audit Committee meets with management, the internal auditor and independent auditors on a regular basis to discuss significant issues and audit findings, in accordance with their mandate. The independent auditors and internal auditor have unrestricted access to the Audit Committee, with or without management's presence.

The Audit Committee ensures that the development of the Corporate Plan is in alignment with the direction provided by the Board, and reviews the Plan before it is reviewed and approved by the Board of Directors and submitted to the Minister of Natural Resources.

The Human Resources and Governance Committee oversees the areas of human resources, organizational health and safety, including nuclear safety, security, environment and corporate governance.

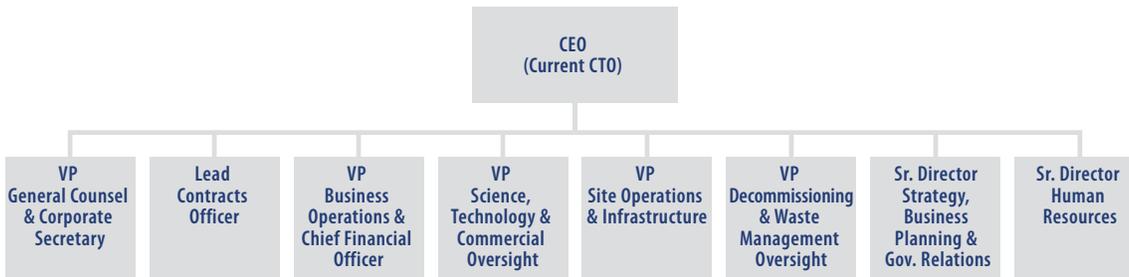
Board of Directors and its Committee Structure



Executive Management

To lead AECL during the transition period to and implementation of the GoCo model, a Chief Transition Officer has been appointed. The Chief Transition Officer is directly accountable to the Board of Directors. Once the Government appoints a President and CEO, he or she will lead AECL in its new role and the position of Chief Transition Officer will subside. All direct reports to the CEO/Chief Transition Officer of AECL are appointed by the Board through the Human Resources and Governance Committee on the recommendation of the Chief Transition Officer or, once a President and CEO is appointed, by him or her. Each of the CEO direct reports is accountable for specific areas of business and operations as approved by the Chief Transition Officer (and President and CEO, as appropriate) endorsed by the Board’s Human Resources and Governance Committee.

AECL's Executive Management Structure



Annex E – Implementation of the Directive On Travel, Hospitality, Conference and Event Expenditures

In 2015-16, AECL worked to align its travel, hospitality, conference and event expenditures policies, guidelines and practices with those of the Treasury Board Secretariat (including the Directive on Travel, Hospitality, Conference and Event Expenditure, the 'Directive') in a manner that is consistent with its legal obligations.

All of AECL's policies were reviewed and were found to be mostly already compliant with the Directive, with only minor changes required to ensure full compliance. Any necessary adjustments were made to bring the organization's policies in line with the Directive. This included an amalgamation of the travel policy for employees and that for executives. A separate policy remains for Board members and is compliant with the Directive and aligned to Treasury Board policy.

Other changes included the modification of approval authority levels for travel and hospitality, updates to travel forms and the alignment of travel categories. All changes were reviewed by management and approved by the Board of Directors.

AECL also implemented the proactive disclosure of the travel expenditures of its Board members as well as its CEO/President and Vice Presidents on its website. This posting details the costs per trip per individual on a quarterly basis and started at the third quarter of 2015-16. Total travel, hospitality, conference and event expenditures for the organization are being reported through an annual report which is posted on the company's website, starting with 2015-16 expenditures.

Furthermore, as part of its annual planning process, AECL established planned travel and hospitality expenditures for the upcoming fiscal year. Given its reduced size and new role, 2015-16 served as a benchmark year to establish planned travel expenditures for following years.

As a result of these adjustments, AECL is now compliant with the government's Directive on Travel, Hospitality, Conference and Event Expenditure.