Atomic Energy of Canada Limited

2018 Annual Report

BUILDING A SCIENCE FUTURE

AECL EACL

AECL overview

As a federal Crown corporation, AECL's mandate is to enable nuclear science and technology and fulfill the Government of Canada's radioactive waste and decommissioning responsibilities.

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.

Table of Contents

A CNL scientist conducts research as part of the health sciences portfolio of work.

A conceptual image of the revitalized Chalk River Laboratories campus.

BUILDING A SCIENCE FUTURE...

Working with the operator of our sites, Canadian Nuclear Laboratories, and leveraging a 1.2 billion dollar investment from the Government of Canada, AECL is working to revitalize the Chalk River Laboratories. By investing in new and renewed science infrastructure, and new site support infrastructure, we are building a world-class nuclear science and technology campus that will continue to contribute to Canada's science and innovation goals for decades to come.

... WHILE TAKING CARE OF OUR ENVIRONMENTAL RESPONSIBILITIES

With over 60 years of nuclear science and technology activities, including the production of medical isotopes which have benefited billions of people worldwide, our activities have produced radioactive waste. We have a responsibility to clean up our sites, manage our radioactive waste, and protect the environment. This means that we need to decontaminate buildings, remediate contaminated lands and isolate the radioactive waste from the environment. It is our responsibility to tackle these challenges now so as not to leave them to future generations.

BUILDING A SCIENCE FUTURE

AECL has been at the forefront of innovation in Canadian nuclear science and technology since the 1940s. Our nuclear science expertise has been applied to physics, metallurgy, chemistry, biology and engineering with significant benefits to Canada and Canadians. Our production of medical isotopes has benefited billions of people worldwide.

Revitalization of the Chalk River Laboratories

Almost 75 years after work began at Chalk River, AECL's mandate is to renew the Chalk River Laboratories in order to transform them into a modern, world-class nuclear science and technology campus.

We are tackling environmental challenges and cleaning up contaminated lands at Canada's largest science and technology complex to make way for a...

$1.2 billion investment

in new and renewed science and site support infrastructure over 10 years.

The Chalk River Laboratories are offering valuable research insights into future scientific discoveries in disciplines such as....

Border Security

By 2025, CNL will develop a technology to detect nuclear materials inside shipping containers, improving Canada's border security.

Cybersecurity

Cybersecurity research will strive to enhance the security and prosperity of Canadians and our infrastructure by examining cybersecurity in industrial control systems.

NUCLEAR SCIENCE

Environment

Building on decades of experience, CNL will continue to research how radioactive materials may interact within various ecosystems in Canada.

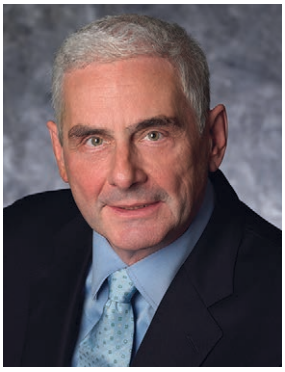
Health

Research on alpha-emitting isotopes could help effectively fight cancer and other diseases by targeting treatments directly to tumors, limiting the damage to other areas of the body.

Clean Energy

By 2026, CNL will demonstrate how effectively small modular reactors can provide safe and clean energy for Canadians, including for remote communities and remote resource extraction industries.

MESSAGE FROM THE CHAIR OF THE BOARD



AECL's history and past achievements in nuclear science and technology cannot be overstated. Over the years, AECL developed technologies which have had impacts on human health, low-carbon energy production, safety, security and the protection of the environment.

Since 1957, the National Research Universal (NRU) reactor was at the centre of many of these breakthroughs. The NRU was shut down on March 31, 2018, and I would like to take a moment to celebrate one of Canada's most productive science facilities. The NRU has contributed directly and indirectly to Canada's nuclear technology – the CANDU reactor, and the associated 6 billion dollar industry, and was integral to the use and production of medical isotopes.

It is also time to look forward, and to embark on research and development work that will be the basis for the next breakthroughs. Enabled by a clear commitment from the Government of Canada, the future of the Chalk River Laboratories is bright. We are leveraging a 1.2 billion dollar investment to revitalize the Laboratories and build a modern, world-class nuclear science and technology campus that will attract experts from around the world, build and sustain Canada's capabilities and contribute to our innovation goals.

This transformation is driven by the work of Canadian Nuclear Laboratories (CNL), which operates AECL's sites on our behalf. Having moved to a Government-owned, Contractor-operated model in 2015, AECL gave CNL the mandate to manage our radioactive waste and decommissioning responsibilities in a manner that protects the environment, and grow the Chalk River Laboratories' science and technology stature by revitalizing the site, delivering science that supports the Canadian government and offer services to third parties on a commercial basis.

This work is well underway, supported by a Long-term Plan that outlines CNL's vision for the next 10 years and its plans to achieve it. AECL approved this Plan, and continues to oversee CNL's activities so that they meet our priorities and bring value for money for Canada. In fact, I was pleased to report on AECL's role and activities at a public meeting held on May 8, 2017, in Deep River, Ontario, host community to the Chalk River Laboratories.

An important part of our work is also to manage our radioactive waste in a manner that protects the environment and brings best value for taxpayers. We have a responsibility to tackle these challenges now so as not to leave them to future generations. Most importantly, finding solutions for radioactive waste disposal enables us to protect the

environment and reduces risks in the long term. Indeed, international best practices show that waiting to address radioactive waste and decommissioning responsibilities only increases risks to workers and the environment, as well as associated costs. We have the know-how, we have the technology, and we have the expertise of CNL to help us safely decontaminate buildings, remediate contaminated lands and build waste disposal facilities that will leave our sites in a better state.

AECL's own expertise continued to be strengthened this year as we welcomed new members to our Board of Directors: Carmen Abela, Martha Tory, James Burpee, and Philip Jennings. Together with the existing Board members, they bring various experiences that enable us to fulfill our mandate (the biographies of our Board members are available in the Corporate Governance section of this report). I also want to take a moment to thank our outgoing Board members: Bob Hamilton and Jim Hall for their support, expertise and contribution over the past years. Furthermore, I am very pleased, and want to congratulate, Richard Sexton on his appointment as AECL's President and CEO. Appointed in February 2018, Richard brings outstanding experience and talent to our organization.

As we continue our journey on the Government-owned, Contractor-operated model, we continue to see opportunities: opportunities to reduce risks and protect the environment, opportunities to revitalize the Chalk River Laboratories, and opportunities to continue to make a difference in people's lives through the important scientific work that is carried out by CNL in the areas of health, safety, security, energy and the environment.

Claude Lajeunesse, *Chair of the Board*

MESSAGE FROM THE PRESIDENT AND CEO

Under the Government-owned, Contractor-operated model, we continue to see benefits on multiple fronts. Based on the priorities set out by AECL, CNL responded with an ambitious vision that is already becoming a reality. This includes the transformation of the Chalk River site and the cleanup of buildings and areas contaminated with historic radioactive waste. Implementation is well underway and AECL is pleased with the results to date.

CNL's Long-term Plan, which was approved by AECL, is setting the path towards this transformation. Some changes are visible - redundant buildings are being removed and contaminated sites are being remediated, and others are happening behind the scenes like process transformation and culture change. Importantly, all of these changes are supporting the safe and efficient delivery of CNL's work and are contributing to bringing significant benefits to the environment, the workforce, the community and Canada more broadly.

More than forty-five redundant buildings and facilities have been demolished at the Chalk River site since the implementation of the Government-owned, Contractor-operated model. This notable increase in delivery pace has been accomplished safely, and contributed to progressively reducing Canada's environmental liability and operating costs, while paving the way for new science buildings. Other notable accomplishments include the renewal of the Chalk River operating site licence for a 10-year period which was granted by the Canadian Nuclear Safety Commission as well as the first placement of waste in the Port Hope Long-term Waste Management Facility as part of the Port Hope Area Initiative. The Integrated Waste Strategy that was developed by CNL is also providing a better understanding of, and allowing for, the cost-effective management of AECL's radioactive waste responsibilities – helping identify when and where solutions are needed to address them, where new projects are needed and where our gaps are. Finally, projects are being delivered more efficiently, the Fuel Packaging and Storage Facility being a prime example: we are now expecting it to be completed a full two years ahead of the previous schedule while always focusing on the safety of workers, the public and the environment.

An important focus of CNL's vision is to set the stage for a successful science and technology future that is aligned with the needs of the federal government, as well as responding to commercial customers while being attuned to new developments and opportunities. This includes a focus on developing solutions to enable more effective and targeted nuclear medicine solutions, supporting reactor safety and operating lifetimes, developing hydrogen energy technologies and fuel development for the reactor designs of tomorrow, as well as a goal to demonstrate the commercial viability of advanced reactor designs including small modular reactors, at one of AECL's sites.

While it is important to look forward, I would be remiss if I didn't acknowledge the immeasurable contributions to science and humanity that the National Research Universal reactor, which was shut down at the end of March 2018, has made over its 60-year life. This one-of-a-kind research reactor located at the Chalk River Laboratories provided lifesaving medical isotopes to the benefit of over a billion people, supported the continued operation of a nuclear fleet that has provided clean, reliable energy to Canada and the world, supported research that has led to Nobel-prizes, and enabled technological and industrial advances that we enjoy each and every day. In short, the National Research Universal reactor and the people who have contributed to its operations over the years have made the world a better place.

As we look to the future, we are turning our attention not only to new nuclear science and technology, but also to environmental remediation. There are important projects underway that are being proposed by CNL in order to help AECL tackle its environmental responsibilities that are the results of decades of nuclear science and technology activities, including medical isotope production. These include a proposed near surface disposal facility at the Chalk River site, and the proposal for the in situ decommissioning of the WR-1 research reactor and the Nuclear Power Demonstration reactor located in Pinawa, Manitoba, and Rolphton, Ontario, respectively. These projects are currently undergoing Environmental Assessments, led by the Canadian Nuclear Safety Commission, Canada's independent nuclear regulator. It is important to note that the Canadian Nuclear Safety Commission will not allow projects to proceed unless it can assure itself that they are safe for the public, workers and the environment.

We recognize that people have questions about these projects. Our goal is to protect the environment and the interests of taxpayers and the Government of Canada. We will continue to oversee the activities of CNL in order to achieve this. Through the work of our staff, we bring value to Canada by playing a challenge function with a view to advancing our priorities in the most effective and efficient manner. It is our role to consider the long-term sustainability and environmental stewardship of our sites and assets.

Richard Sexton, *President and CEO*

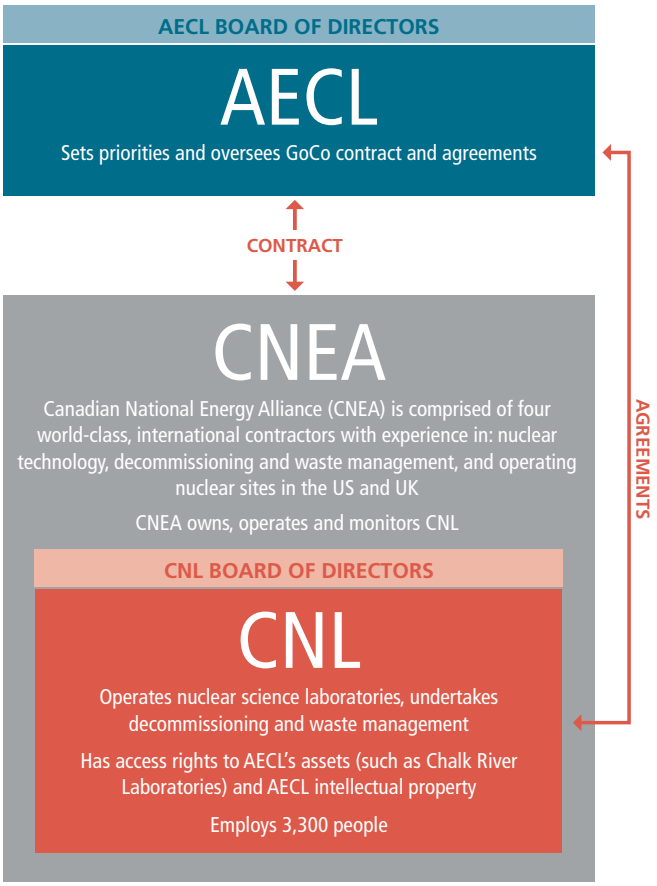
HOW WE OPERATE

AECL is a Crown corporation whose mandate – to enable nuclear science and technology and fulfill the Government of Canada's radioactive waste and decommissioning responsibilities – is delivered through a Government-owned, Contractor-operated model.

In 2015, AECL moved from a Government-owned, Government-operated model to a Government-owned, *Contractor*-operated (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 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 3,300 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 role is threefold: 1) to act as agent of Government; 2) to provide input and advice in support of nuclear policy matters to Canada; and 3) to set priorities for CNL, oversee the contract and assess CNL's performance. AECL brings best value to Canada by playing a challenge function with a view to advancing its priorities in the most effective and efficient manner, while maintaining safety, security and the protection of the environment.



AECL SITES

Our sites

The Chalk River Laboratories are Canada's largest science and technology complex, and the work undertaken there supports federal roles, responsibilities and priorities in the areas of health, energy, the environment, safety and security. The laboratories also provide products and services to third parties on a commercial basis. The Chalk River site is currently undergoing an important renewal and modernization that will transform the site into a modern, world-class nuclear science and technology campus.

AECL is also responsible for the cleanup of certain nuclear sites across Canada. These include sites that belong to AECL and which have served important roles in advancing nuclear science and technology over the years – the Chalk River Laboratories in Ontario, the Whiteshell Laboratories in Manitoba, as well as other sites in Ontario and Quebec. The objective is to safely and responsibly address the environmental responsibilities and liabilities in order to protect the environment. This requires the decontamination and decommissioning of redundant structures and buildings, the remediation of contaminated lands and the management and disposal of radioactive waste.

Furthermore, AECL is responsible for the remediation and long-term management of sites contaminated with historic, low-level radioactive waste where the Government of Canada has assumed responsibility, most notably as part of the Port Hope Area Initiative in the municipalities of Port Hope and Clarington, in Ontario, and along the Northern Transportation Route in the Northwest Territories.

REPORTING ON RESULTS

The focus of this section is to report on the performance measures which were set out in AECL's 2017-18 Corporate Plan Summary and which were targeted to be achieved within that year. Results for future year targets will be reported in subsequent Annual Reports. For more details on AECL's results and planned activities, please see the 2018-19 Corporate Plan Summary available at www.aecl.ca.

CNL scientists undertake experiments in clean energy technologies. For example, some research activities are focused on the use of hydrogen as a clean energy source, particularly in the transportation sector.

Building decontamination is being performed at the Chalk River Laboratories in order to protect the environment. Once decontaminated, the building will be demolished, therefore paving the way for new science buildings at the site.

DECOMMISSIONING AND WASTE MANAGEMENT

AECL has been conducting nuclear science and technology activities for decades. While these activities have had important benefits for Canada and Canadians – for example the production of medical isotopes used in the detection and treatment of cancer – they also produced radioactive waste. AECL manages various types of radioactive waste at its sites, including high-level waste (used fuel), intermediate-level waste and low-level waste. Several sites and facilities that have also been contaminated now need to be decontaminated and demolished, and the radioactive waste managed properly and safely. Finally, AECL has to remediate contaminated lands (principally at the Chalk River Laboratories) which have been contaminated as a result of past radioactive waste management practices which are no longer considered acceptable based on today's stringent standards.

AECL's objective is to increase the priority and measurable advancement of the decommissioning and waste management program to address risks and hazards sooner, reducing risks and costs for Canada in a manner that protects the environment, consistent with international leading practices.

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

The GoCo model has provided an opportunity for AECL to leverage the experience and expertise of the private-sector to optimize work and increase efficiencies and effectiveness, resulting in plans to address risks sooner and advancing plans for waste disposal facilities. These disposal facilities will allow radioactive waste to be safely disposed of and the waste contained while protecting the environment. This will pave the way for necessary site remediation and building decommissioning and help reduce the long-term costs of maintenance and surveillance of existing buildings which are contaminated but no longer in use. As such, AECL is working to reduce the Government's liability in a much shorter period of time than what had previously been planned.

The advancement of decommissioning work was a clear priority of the GoCo model and started immediately upon its implementation. Significant progress is already happening at the Chalk River site, with changes to the site's skyline clearly evident as redundant buildings and facilities are being decommissioned. Priorities for 2017-18 were focused on overseeing the work of CNL in advancing key decommissioning and waste management activities at the Chalk River site, most notably CNL's proposal for the construction of a near surface disposal facility, the Whiteshell site, the Nuclear Power Demonstration reactor site and the Port Hope Area Initiative. AECL also focused its efforts on overseeing the continued transformation of CNL's decommissioning and waste management organization, with a focus on increased productivity and continued safety, security and protection of the environment.

Specific results for 2017-18, based on targets set out in the 2017-18 Corporate Plan Summary, are as follows:

Outcome	Performance measure	Target	Results	What this means
Waste management practices are transformed based on a strategic, integrated and cost-effective long-term vision for the management of AECL's liabilities.	CNL uses the first comprehensive Integrated Waste Strategy document to drive delivery of decommissioning and waste management goals.	2017-18 to 2019-20: High priority characterization needs are identified and undertaken.	Completed. All actions scheduled for 2017-18 were completed.	By identifying further details on the various types of contamination and radioactive waste that is currently managed (for example in a contaminated building), CNL can identify the highest-risk areas and address them sooner. This reduces environmental risks.
	Manage interim low-level radioactive waste storage capacity.	2017-18: Develop low-level radioactive waste storage capacity (so as not to limit facilities decommissioning objectives before the Near Surface Disposal Facility becomes operational).	Completed. Additional capacity was successfully made available in 2017-18. Forecasting efforts will continue in case additional capacity is determined to be required.	Until a disposal facility is available, CNL continues to temporarily store all of AECL's radioactive waste. As storage capacity for the low-level radioactive waste was limited, additional capacity was made available to store the waste that is continuously produced as a result of ongoing nuclear science and technology activities. Once the proposed Near Surface Disposal Facility is available, this waste will be moved there for disposal.
The decommissioning and waste management program at the Chalk River site is accelerated to reduce AECL's liabilities.	CNL designs, plans, seeks appropriate support and approvals and builds a near surface disposal facility.	2017-18: Regulatory approval to begin construction received and construction contract awarded.	Delayed. Timelines for regulatory approval have been delayed due to higher-than-anticipated stakeholder engagement. Schedules are being revised.	The construction of a near surface disposal facility requires proper regulatory approvals in order to confirm that the project is safe for the environment, the public and the workers. The project is currently undergoing an Environmental Assessment, which includes participation by and input from the public and Indigenous groups. CNL is taking the time necessary to address comments and revise, as appropriate, the project to take input into account. From an operational perspective, this means that low-level radioactive waste will have to continue to be temporarily stored on site and large-scale land remediation and building decommissioning will also be delayed.

Table continues on the next page

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Outcome	Performance measure	Target	Results	What this means
The decommissioning and waste management program at the Chalk River site is accelerated to reduce AECL's liabilities. *(continued)*	Milestones associated with skyline changes at the Chalk River Laboratories are met as per CNL's annual plans and the performance targets set by AECL.	Demolition of structures, systems and components 2017-22: Approximately 65 structures.	Achieved ahead of schedule. 26 demolitions were completed in 2017-18, including 4 which were originally planned for future years but were done ahead of schedule.	CNL is demonstrating very good project management and integrated teams are performing well. As planned, focus is being placed mainly on structures which do not contain radioactive contamination. Several outdated and high-risk buildings which are contaminated will need to be decontaminated and demolished. As noted above, most of these activities will be undertaken once the Near Surface Disposal Facility is available to avoid continuously storing radioactive waste temporarily.
The Port Hope Area Initiative is delivered efficiently and effectively in order to reduce AECL's liability.	Port Hope Area Initiative milestones are completed on or ahead of schedule.	2017-18: Port Hope Long-term Waste Management Facility ready to receive off-site waste.	Achieved. The facility started receiving waste in December 2017.	The Port Hope Area Initiative is Canada's largest environmental remediation project. The Port Hope Project involves the cleanup of approximately 1.2 million cubic meters of historic low-level radioactive waste from various sites in Port Hope and its transportation to a long-term waste management facility. With the facility being operational, this means that cleanup in the community can begin.
The Nuclear Power Demonstration reactor is successfully decommissioned and the site is closed in order to reduce AECL's liability.	CNL submits application for a licence.	September 2017.	Completed on schedule.	The decommissioning of the Nuclear Power Demonstration reactor requires proper regulatory approvals in order to confirm that the project is safe for the environment, the public and the workers. The project is currently undergoing an Environmental Assessment and CNL has submitted an application to the Canadian Nuclear Safety Commission for the in situ decommissioning of the reactor as per the planned schedule. If completed, the project will reduce AECL's and Canada's decommissioning and environmental liabilities.

A CNL scientist is using a thermal ionization mass spectrometer, which, when combined with specialized chemical processes, provides high precision measurements of isotope ratios and quantification of isotopes or elements. This helps CNL better measure and understand the effects of radiation, and can be applied to a variety of activities, including nuclear forensics (detecting and understanding the effects of illicit nuclear materials) and nuclear medicine.

NUCLEAR LABORATORIES

AECL's mandate is to enable nuclear science and technology in order to sustain and develop Canada's capabilities and contribute to the government's science, innovation and clean energy objectives in a cost-effective manner. Nuclear science and technology activities at the Chalk River Laboratories support the Federal Nuclear Science and Technology Work Plan, which helps the Government of Canada deliver on its responsibilities in the areas of health, nuclear safety and security, energy and the environment. To continue to enable the nuclear sector across Canada and to build a vibrant portfolio of work at the Chalk River Laboratories, AECL has asked CNL to provide technical services and research and development products for third parties on a commercial basis.

In 2017-18, AECL continued to focus on the effective and efficient delivery of nuclear science and technology services by CNL. This included aligning science and technology activities with best-in-class project management practices, increasing commercial revenues and reducing the administrative and management cost (overhead) of its programs in order to deliver more science-based activities. AECL has also asked CNL to leverage partnerships and collaboration with academia, government, industry and the scientific community to maintain the profile and relevance of the laboratories.

CNL has developed a 10-year plan, which has been approved by AECL, outlining the strategic approach to delivering an integrated, effective, project-based and customer-focused science and technology mission that serves the needs of the federal government as well as those of external customers. 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. CNL's long-term plans for targeted and strategic capital investments will allow the laboratories to grow the unique complement of science and technology capabilities, while remaining flexible to quickly adapt to the evolutionary opportunities of nuclear and energy-related, leading edge innovation. These investments will contribute to an efficient and cost-effective campus, replacing aged facilities and infrastructure that are costly to operate and maintain.

Specific results, based on targets set out in the 2017-18 Corporate Plan Summary, are as follows:

Outcome	Performance measure	Target	Results	What this means
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.	As per milestones and targets included in CNL's annual plans.	Completed. Milestones in the annual plans were delivered on time with high quality.	Nuclear science and technology activities at the Chalk River Laboratories support the Federal Nuclear Science and Technology Work Plan, which helps the Government of Canada deliver on its responsibilities in the areas of health, nuclear safety and security, energy and the environment. CNL undertakes projects in support of 13 departments and agencies to address medium and long-term government priorities in the areas of climate change and a clean environment; informed, science-based policy decision making; innovation for economic growth and prosperity; and the health, safety and security of Canadians.
	Impact of science and technology based on feedback from federal customers.	Based on project reviews and assessment or other documents produced by government.	Achieved. Based on the mid-year project reviews, federal stakeholders have acknowledged the importance of the work being performed and have requested additional dissemination of results.	
Grow commercial opportunities for the laboratories	Increase in commercial revenues.	Revenues are more than $60M (not including isotope revenue).	Achieved.	To further grow and build the science expertise and capabilities at Chalk River, CNL provides technical services and research and development products for third parties on a commercial basis.
CNL transforms ongoing nuclear operations and prepares for the shutdown of the National Research Universal reactor.	CNL implements National Research Universal reactor Transition and Shutdown Plan.	As per milestones defined in the National Research Universal reactor Transition and Shutdown Plan.	Achieved.	Proper planning and execution is important in providing for the safe and orderly shutdown of the National Research Universal reactor.
The National Research Universal reactor and related experimental and production facilities are maintained in order to deliver research projects up to the March 2018 shutdown.	National Research Universal reactor operation and related production facilities are maintained and operational in accordance with operating licences.	National Research Universal reactor high power operation for 228 days including operation of the U2 loop to meet schedules for science and technology work.	Completed. High power operation were achieved for 245 days.	The NRU has played a central role in nuclear science and technology in Canada for 60 years. As it is an old reactor and is expensive to maintain and operate, it was shutdown in March 2018. Prior to this date, the reactor continued to provide science and technology services in support of the nuclear and other industries.

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Outcome	Performance measure	Target	Results	What this means
Management and operations (including nuclear operations) of CNL are transformed to enhance efficiency and reduce costs.	Strategic reduction in CNL indirect costs.	2017-18: Delivery of a detailed plan outlining CNL's long-term indirect cost projections.	Mostly achieved. CNL submitted a detailed plan outlining long-term indirect cost projections. However activities are continuing in 2018-19 to refine the plan in order to achieve AECL's objectives.	One of AECL's objectives under the GoCo model is to increase effectiveness and efficiency in the management of its sites. Reductions in indirect costs will enable cost savings while maintaining safety, security and the protection of the environment.
CNL's project and safety performance is improved.	Improved health, safety, security and environmental performance and reporting relative to good industry practice.	2017-18: Benchmarked and measurable improvements in health, safety, security and environmental industry-standard metrics (including weighted indices which are underpinned by statistically-based analyses).	CNL has achieved notable improvement in overall focus and attention on environmental and industrial safety performance, with positive trends in many metrics.	As based on established industry standard statistical methods, CNL is measuring performance in this area similarly to others internationally, including the United States Department of Energy sites.
CNL's company-wide security posture and performance is improved.	Planned physical and programmatic security upgrades, IT system upgrades are completed.	2017-18: As per milestones and targets included in CNL's annual plan.	Mostly achieved. Several notable physical improvements were completed as per schedule. However IT systems upgrades were delayed.	Security upgrades and improvements in CNL's security program are required so that the people and sites continue to be secure, both from physical and cybersecurity threats. Initiatives are improving the detection and deterrence activities, and increasing the protection for the nuclear security officers. In IT, the objective is to build a secure and robust infrastructure, modernizing or retiring legacy systems and components. This work also supports the delivery of the nuclear science and technology mission at CNL.

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Outcome	Performance measure	Target	Results	What this means
CNL's company-wide security posture and performance is improved. *(continued)*	Implementation of Security Program improvement recommendations identified in two independent assessments.	2017-18: Measurable improvement in the Security Program performance as measured by industry-standard Security Program weighted index, and through annual performance ratings from the Canadian Nuclear Safety Commission for CNL sites, and ratings from the Canadian Nuclear Safety Commission of major training exercises, etc.	Achieved. This is evidenced by improved performance on the Security Program Index. There have been important improvements to physical security at the Chalk River site. Overall security performance remains a focus area in order to remain responsive to evolving threats.	Security upgrades and improvements in CNL's security program are required so that the people and sites continue to be secure, both from physical and cybersecurity threats. Initiatives are improving the detection and deterrence activities, and increase the protection for the nuclear security officers. In IT, the objective is to build a secure and robust infrastructure, modernizing or retiring legacy systems and components. This work also supports the delivery of the nuclear science and technology mission at CNL. *(continued)*
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.	2017-18: Completion of milestones defined in CNL's annual plan.	Mostly achieved. 51 of the 56 milestones related to infrastructure projects were met, and all major milestones were achieved on time and on budget. Three of the five milestones which were not achieved relate to IT projects (noted above), and the other two relate to the new sanitary sewage treatment facility and the domestic water project, both of which were completed shortly after the end of the fiscal year.	Major milestones were all achieved on time and on budget, including the completion of the new Harriet Brooks Building (which houses cutting-edge research and development in chemistry and materials), the construction of the new tritium laboratory, and other site support infrastructure such as the domestic water supply and the new sanitary sewage treatment facility. Other noteworthy capital investments successfully completed over the past year include the installation of updated security equipment, the conversion of buildings to natural gas for heating, and equipment in science and technology (e.g. a new transmission electron microscope). Together, these achievements contribute to the revitalization of the Chalk River Laboratories and its transformation into a world-class, state-of-the-art nuclear science and technology campus. New facilities and equipment also support the nuclear science and technology in support of the Government of Canada's objectives in the areas of health, safety, security, energy and the environment.

MANAGEMENT DISCUSSION AND ANALYSIS

Forward Looking Statements

This Management Discussion and Analysis (MD&A) has been reviewed by AECL's Audit Committee and approved by AECL's Board of Directors. It provides comments on the performance of AECL for the year ended March 31, 2018 and should be read in conjunction with the consolidated financial statements and accompanying notes included in this Annual Report.

This MD&A contains forward-looking statements with respect to AECL based on assumptions that management considers reasonable as at June 19, 2018, when AECL's Board of Directors approved this document. These forward-looking statements, by their nature, necessarily involve risks and uncertainties that could cause future results to differ materially from current expectations. We caution the reader that the assumptions regarding future events, many of which are difficult to predict, may ultimately require revision.

Organization

AECL is an agent Crown corporation reporting to Parliament through the Minister of Natural Resources. AECL's operations are funded through Parliamentary Appropriations and third-party revenues which result from commercial work that CNL undertakes, as a contractor of AECL, principally in the areas of nuclear science and technology as well as the sale of heavy water and medical and industrial isotopes.

AECL Operations include all of the activities associated with the management and oversight of the GoCo model, including Decommissioning and Waste Management activities as well as the Nuclear Laboratories.

Risks and Opportunities

AECL carefully plans for and manages risks as part of sound risk management practices, and seeks new and ongoing opportunities aligned with its mandate.

Given its oversight role, AECL's risk management approach goes beyond internal organizational risks and includes oversight of CNL risks. Ongoing communication with CNL and the monitoring of plans, activities and results allows AECL to monitor risks and, if applicable, implement mitigation strategies. This section highlights AECL's key risks which may have a potential impact on AECL's financial results.

AECL Internal Risks

AECL's success, including the provision of effective contractual oversight, depends in large part on the organization's ability to operate as intended. Significant risks that have the potential to impact AECL operations are considered AECL internal risks, and include:

- **Attraction and retention of qualified personnel –** There is a risk that AECL cannot attract or retain replacements to fill vacant positions or have successors ready to fill retirements or employees moving to new positions. AECL's success depends in large part on the organization's ability to retain its small workforce, comprised of highly qualified and specialized employees. In particular, AECL has had to recruit international experts with experience in working under GoCo models in the United States and United Kingdom (where this model has been used specifically at nuclear sites) in order to have the right knowledge and competencies in place to help it implement the GoCo model. The retention of this expertise, along with the on-the-job training of other staff, continues to be critical to enable sustainable operations. AECL has put in place many mitigation measures in this area, including: securing extensions of contracts with key executives, and putting in place a succession plan with consideration for cross training/mentoring of staff in an effort to develop the next generation of Canadian experts in the GoCo model and avoid any gaps in critical positions.
- **Cybersecurity –** there is a risk that a cybersecurity incident would compromise AECL systems and data assets. AECL has security protocols in place with a third-party service provider, and throughout 2017-18 implemented a number of improvements to increase its cybersecurity position. AECL's cybersecurity position has been and will continue to be supported by periodic third party reviews/audits. Throughout the planning period, AECL will consider the recommendations coming out of these assessments and implement improvements utilizing a risk-based approach.

Contractual Risks

The GoCo model relies on the expertise brought about by the contractor as well as proper oversight by AECL to achieve value for money for Canada. 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 by AECL. AECL will continue to work to bring the right balance between having a line of sight into activities to play a proper challenge function, and onerous oversight that damages the relationship or results in unnecessary administrative requirements and processes.

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 oversight and collaboration, including a Contractor Assurance System (a system that allows for the tracking of key performance metrics) and an Earned Valued Management System (a standard-based and industry best practice system that allows for integrated planning and tracking of projects, including their scope, schedule and cost) which is available to AECL. AECL has also put in place processes to perform effective contract oversight and has broad audit rights over all aspects of CNL's activities.

CNL Operational 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 such projects, closer oversight of projects is being applied. AECL's oversight includes the requirement that project plans appropriately reflect the identified risks and necessary mitigating actions, engaging with other stakeholders, as required, and monitoring performance.

Opportunities

At the request of AECL, CNL developed a long-term plan that outlines a vision for CNL with a view to positioning the organization as a global leader in nuclear science and technology, growing its commercial business and building a modern, efficient and collaborative campus environment at the Chalk River Laboratories. The objective is to strategically invest $1.2 billion in new and renewed science infrastructure at the site in order to support the nuclear research needs of the Canadian Government and the evolving science and technology needs of the Canadian and global nuclear industry. AECL has approved CNL's long-term plan and will be providing oversight of specific projects in order to bring value for money for Canada.

Building on existing expertise and capabilities and leveraging the experience brought by the private sector, the long-term plan outlines opportunities for CNL to:

- Provide global sustainable energy solutions, including the extension of reactor operating lifetimes, hydrogen energy technologies, and fuel development for the reactor designs of tomorrow;
- Demonstrate the commercial viability of advanced reactors, including the small and very small modular reactor;
- Continue to support radiochemical therapies, including collaboratively pioneering new alpha therapies; and,
- Protect Canada's environment by removing and responsibly managing nuclear liabilities.

The opportunity related to small modular reactors is noteworthy given Canada's expertise in nuclear technology, including its existing supply chain and potential market. The application of this type of technology could serve a wide variety of potential customers, including the mining and gas industry, and remote communities. As one of the challenges facing small modular reactors is the number of designs (there are currently over 100 different designs), AECL believes that expertise at the Chalk River Laboratories could be leveraged to advise both the government and industry on the technology. CNL has voiced a strong interest in working as a key partner on the development and deployment of small modular reactors, and has already taken steps to further explore this opportunity. In 2017-18, CNL issued a Request for Expression of Interest, which prompted input from small modular reactor technology developers, potential end users, and other interested parties and stakeholders, including host communities, the nuclear supply chain and research and academic institutions.

Responses received showed areas of general agreement on small modular reactors, including the positive economic benefits to Canada, alignment with Canada's commitment to fight climate change, important applications for remote communities, and the potential to enhance nuclear safety through next-generation nuclear technology.

Going forward, AECL will work with Natural Resources Canada and will continue to support CNL as it builds a better understanding of its existing capabilities, technology gaps, requirements, and overall market interest. AECL will also support CNL's activities to demonstrate the commercial viability of the small modular reactor by 2026, including advancing commercial opportunities to host demonstration projects that are financed by third parties at AECL sites.

Financial Review

	March 31	
($ millions)	**2018**	2017
	$	$
Revenues		
Parliamentary appropriations	**826**	784
Commercial revenue	**88**	111
Interest income	**4**	5
	918	900
Expenses		
Cost of sales	**65**	84
Operating expenses	**96**	68
Contractual expenses	**323**	332
Decommissioning, waste management and contaminated sites expenses	**295**	26
Wrap-Up Office activities	**5**	5
	784	515
Surplus for the year	**134**	385

Parliamentary Appropriations

The Government of Canada provides funding for AECL to advance its priorities and deliver on its mandate. AECL recognized $826 million of Parliamentary appropriations in fiscal year 2017-18, an increase of $42 million compared to the prior year. This primarily relates to an increase in spending on decommissioning, waste management and contaminated sites activities during the year.

Commercial Revenue

In 2017-18, revenue decreased to $88 million from $111 million in 2016-17. Revenue included isotope sales, commercial technology sales, nuclear waste management and research and development activities performed by CNL for commercial customers. This decrease can be attributed primarily to decreased isotope sales, consistent with the Government's decision to cease production of molybdenum-99 in October 2016, that was not offset fully by an increase in other commercial revenue referenced above.

Interest Income

Interest income is earned on cash, short-term investments from appropriations and investments held in trust. Income earned in the year is comparable to the prior period.

Cost of Sales

Cost of sales are consistent with the Commercial revenue noted above.

Operating Expenses

Operating expenses include AECL's oversight expenses and amortization of tangible capital assets. There were operating expenses of $96 million in 2017-18 compared to $68 million in 2016-17. The increase is due primarily to increased amortization of tangible capital assets of $9 million, increased write-offs of construction in progress of $8 million and write-offs of items in trade and other receivables totaling $7 million.

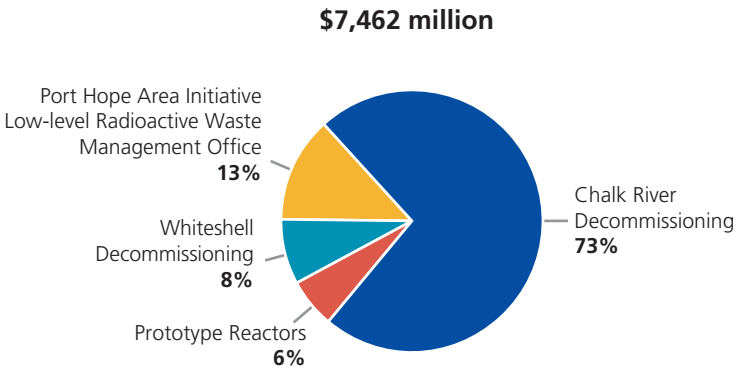
Contractual Expenses

AECL delivers its mandate through a long-term contract with CNL for the management and operation of its sites. CNL expenditures are reported by AECL as Contractual expenses. Expenses in this category for 2017-18 total $323 million, compared to $332 million in 2016-17.

Decommissioning, Waste Management and Contaminated Sites Expenses

Decommissioning, waste management and contaminated sites expenses consist of financial expenses and the revaluation (gain) loss, if any, on these reported liabilities. Financial expenses reflect the increase in the net present value (accretion of discount) of these reported liabilities. The 2017-18 decommissioning, waste management and contaminated sites expenses of $295 million represents a $269 million increase over the expenses in 2016-17. The reported increase in the expenses in 2017-18 over the prior year is primarily a result of the fact that, in 2016-17, the estimate was reduced almost $236 million due to the removal of an allowance for future capital expenditures not directly attributable to decommissioning and remediation activities.

Decommissioning and Contaminated Sites Liability 2017-18



Wrap-Up Office Activities

At the date of the divestiture of the assets of its commercial division to Candu Energy Inc. in 2011, AECL retained certain liabilities. These are being managed by AECL and are referred to as the Wrap-Up Office. Operating expenses for the Wrap-Up Office include the cost of staff and third-party service providers required to address the retained liabilities. These activities continue to be wound down as planned.

Surplus for the Year

Consistent with AECL's financial reporting framework, appropriations are recognized as received in a given year and may be greater or less than the reported expenditures for the same year. For instance, amounts received to fund decommissioning, waste management and contaminated sites expenditures are recorded as Parliamentary appropriations revenue in the current year while the related expenditures are drawn down from the associated liabilities previously recorded on the Consolidated Statement of Financial Position. And with respect to tangible capital assets, Parliamentary appropriations revenue includes amounts to fund the purchase and construction of these assets in the year while the related expenditures are capitalized, and so the reported operating expenses include only the amortization of existing tangible capital assets.

Outlook

AECL will continue to deliver on its commitments based on its 2018-19 Corporate Plan. As part of the implementation of the GoCo model, AECL has asked CNL to accelerate activities to address AECL's environmental responsibilities. This includes, for example, proposing solutions for AECL's low-level radioactive waste (for which CNL is proposing to build a near surface disposal facility at the Chalk River Laboratories to serve as a final resting place for a large volume of AECL's waste), as well as the acceleration of the decommissioning and closure of the Whiteshell Laboratories and Nuclear Power Demonstration reactor (located in Manitoba and Ontario, respectively). There is also a focus on renewing the site infrastructure at the Chalk River Laboratories, including new and renewed science buildings, which will allow CNL to grow its nuclear science and technology mission and serve the needs of the federal government as well as industry.

Funding

Total funding recognized in 2017-18 for operating and capital activities was $826 million (2016-17: $784 million).

The 2017-18 funding included:

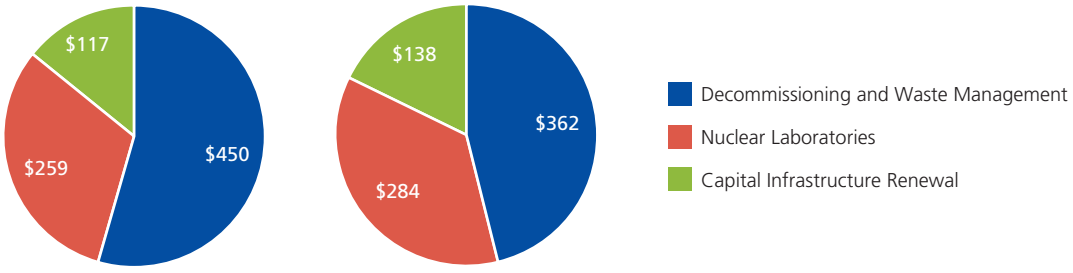
- $259 million to support nuclear science and technology activities as well as ongoing safe operations at the Chalk River Laboratories
- $450 million for decommissioning and waste management activities at the Chalk River and Whiteshell sites and environmental remediation programs primarily in Port Hope
- $117 million for capital infrastructure renewal

Funding 2017–18

Funding	**$826**
Operating:	$709
Capital:	$117

Funding 2016–17

Funding	**$784**
Operating:	$646
Capital:	$138



Results Compared to 2017-18 Corporate Plan

($ millions)	**2018 Actual**	2018 Corporate Plan
	$	$
Parliamentary appropriations	**826**	966
Commercial revenue	**88**	78
Operating expenses	**96**	52
Contractual expenses	**323**	339
Surplus for the year	**134**	318

AECL reported a surplus of $134 million compared to a planned surplus of $318 million. This variance is mostly related to lower-than-planned appropriations funding drawn as well as increased expenses from write-downs required to certain tangible capital assets and receivables.

Consolidated Cash Flow

	March 31	
($ millions)	**2018**	2017
	$	$
Cash provided by operating transactions	**120**	91
Cash applied to capital transactions	**(119)**	(139)
Cash		
Increase (Decrease)	**1**	(48)
Balance at beginning of the year	**37**	85
Balance at end of the year	**38**	37

Operating Transactions

Operating transactions resulted in a net cash inflow of $120 million compared to a net inflow of $91 million in 2016-17. This variance is mainly due to increased receipts from appropriations partly offset by increased cash paid for decommissioning activities.

Capital Transactions

The $119 million cash used in capital transactions in 2017-18 was lower than the $139 million in the prior year. The decrease is primarily due to the fact that 2016-17 included substantial construction activities for a new science and technology facility at the Chalk River site, which was largely completed in 2016-17.

Overall, AECL's 2017-18 year end closing cash position increased by $1 million to $38 million from the previous year's balance of $37 million.

Highlights of the Consolidated Statement of Financial Position

($ millions)	**March 31, 2018**	March 31, 2017	Variance in $	Variance by %
	$	$	$	%
Financial Assets	**451**	475	(24)	-5
Liabilities	**7,967**	8,053	(86)	-1
Non-Financial Assets	**646**	596	50	8
Accumulated Deficit	**(6,869)**	(6,982)	113	-2

The decrease in Liabilities of $86 million can be attributed primarily to a decrease in the decommissioning and waste management provision and contaminated sites liability as a result of liabilities settled.

The increase in Non-Financial Assets of $50 million is mainly a result of increased spending toward tangible capital assets.

Off Balance Sheet Arrangements

Indemnification Arrangements

These arrangements are part of the standard contractual terms to counterparties in transactions such as service agreements, sale and purchase contracts. These indemnification agreements may require AECL to compensate the counterparties for costs incurred as a result of certain events. The nature of these indemnification agreements prevents AECL from making a reasonable estimate of the likely maximum amount to be paid out by AECL.

Accounting Policy Changes

Standards and Guidelines Issued to be Adopted at a Later Date

PS 3430 Restructuring Transactions has been issued by the Public Sector Accounting Board.

AECL intends to adopt this standard when it becomes applicable. While AECL is currently evaluating the impact of adopting this standard on its consolidated financial statements, it is not expected to have a significant impact on AECL's financial reporting, as described in Note 2(r) of the consolidated financial statements.

Critical Accounting Estimates and Policies

AECL's consolidated financial statements include estimates, assumptions and judgments made by management that affect the amounts reported in the consolidated financial statements and accompanying notes. Actual results may differ from these estimates.

Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimate is revised, if the revision affects only that period, or in the period of the revision and future periods, if the revision affects both current and future periods.

Asset Write-downs

AECL reviews its assets whenever events or changes in circumstances indicate that the carrying amount of the asset may not be fully recoverable. This includes conditions that indicate that an asset no longer contributes to the organization's ability to provide goods and services, or that the value of future economic benefits associated with the asset is less than its net book value. Write-downs are indicative of a loss in value that reflects the expectation that the underlying economic resource has diminished in a manner that is other than temporary. A write-down is recognized if the carrying amount of an asset exceeds its estimated recoverable amount. Losses arising from write-downs and changes in valuation allowances are recognized as expenses in the statement of operations in the accounting period.

Parliamentary Appropriations

Parliamentary appropriations that are not in the nature of contributed capital are recorded as funding in the year for which they are appropriated, except as follows:

- Appropriations restricted by legislation and related to expenses of future periods are deferred and recognized as funding in the period in which the related expenses are incurred.
- Appropriations used for operating activities are recognized as funding in the statement of operations as costs are incurred.

Commencing in 1996-1997, and pursuant to a 10-year arrangement with the Treasury Board Secretariat for funding decommissioning activities, AECL retains the net proceeds from the sale or lease of Government of Canada-funded heavy water inventory. This funding arrangement, however, expired on April 1, 2006, and an amount equivalent to the proceeds on contracts entered into after that date has been recorded as a provision on AECL's statement of financial position.

Decommissioning and Waste Management and Contaminated Sites

The cost to address decommissioning and waste management and contaminated sites obligations are recorded as a liability. The liability is recorded based on the discounted value of the estimated future decommissioning and waste management expenditures and contaminated sites expenditures to the extent that they can be reasonably estimated. The provisions are reviewed quarterly to reflect actual expenditures incurred and changes in management's estimate of the future costs and timing thereof.

Five Year Consolidated Financial Summary

Unaudited

(millions of dollars)	**2018**	2017	2016	2015*	2014*
	$	$	$	$	$
Parliamentary Appropriations					
Operating	**709**	646	346	206	274
Statutory	-	-	-	36	34
Capital	**117**	138	145	85	77
	826	784	491	327	385
Operations					
Commercial revenue	**88**	111	117	141	130
Interest income	**4**	5	6	9	7
Other funding	-	-	100	209	194
Decommissioning, waste management and contaminated sites expenses	**(295)**	(26)	(512)	(2,408)	21
Operating, contractual and other expenses	**(484)**	(484)	(452)	(479)	(382)
Wrap-Up Office activities	**(5)**	(5)	(9)	4	(99)
Surplus (deficit) for the year	**134**	384	(259)	(2,265)	192
Financial position					
Cash	**38**	37	85	76	49
Long-term disposal of waste fund	**26**	17	4	-	-
Appropriations receivable	**104**	94	19	-	-
Heavy water inventory	**189**	201	213	221	305
Tangible capital assets	**644**	595	505	417	345
Due to Canadian Nuclear Laboratories	**117**	112	114	-	-
Decommissioning and waste management provision and Contaminated sites liability	**7,462**	7,574	7,873	9,974	7,750
Other					
Number of full-time employees	**42**	44	42	3,318	3,291

* Certain amounts have been reclassified to conform to the 2018 Financial Statement presentation. 2015 and 2014 numbers were prepared under International Financial Reporting Standards

CONSOLIDATED FINANCIAL STATEMENTS

MANAGEMENT'S RESPONSIBILITY

The consolidated financial statements, all other information presented in this Annual Report and the financial reporting process are the responsibility of management. These statements have been prepared in accordance with Public Sector Accounting Standards and include estimates based on the assumptions, experience and judgment of management. Financial information presented elsewhere in this Annual Report is consistent with the consolidated financial statements.

AECL and its subsidiary maintain books of account, financial and management control, and information systems, together with management practices designed to provide reasonable assurance that reliable and accurate financial information is available on a timely basis, that assets are safeguarded and controlled, that resources are managed economically and efficiently in the attainment of corporate objectives, and that operations are carried out effectively.

These systems and practices are also designed to provide reasonable assurance that transactions are in accordance with Part X of the *Financial Administration Act* (FAA) and its regulations, as well as the *Canada Business Corporations Act*, the articles, and the by-laws and policies of AECL and its subsidiary. AECL has met all reporting requirements established by the FAA including submission of a Corporate Plan, an operating budget, a capital budget and this Annual Report. AECL's internal auditor has the responsibility of assessing the management systems and practices of AECL and its subsidiary. AECL's independent auditor, the Auditor General of Canada, conducts an audit of the consolidated financial statements of AECL and reports on its audit to the Minister of Natural Resources.

The Board of Directors is responsible for ensuring that management fulfills its responsibility. To accomplish this, the Board has two standing committees: the Audit Committee and Human Resources & Governance Committee. The Audit Committee, composed of independent directors, has a mandate for overseeing the independent audit, directing the internal audit function and assessing the adequacy of AECL's business systems, practices and financial reporting. The Audit Committee meets with management, the internal auditor and independent auditor on a regular basis to discuss significant issues and findings, in accordance with their mandate.

The independent auditor and internal auditor have unrestricted access to the Audit Committee, including without management's presence. The Audit Committee reviews the consolidated financial statements and the Management's Discussion and Analysis report with both management and the independent auditor before they are approved by the Board of Directors and submitted to the Minister of Natural Resources. The Board of Directors, on the recommendation of the Audit Committee, approves the consolidated financial statements. The Chair of the Audit Committee signs the audited consolidated financial statements.

Richard Sexton
President and Chief Executive Officer
June 19, 2018

David J. Smith
Chief Financial Officer
June 19, 2018

Office of the Auditor General of Canada
Bureau du vérificateur général du Canada

INDEPENDENT AUDITOR'S REPORT

To the Minister of Natural Resources

Report on the Consolidated Financial Statements

I have audited the accompanying consolidated financial statements of Atomic Energy of Canada Limited, which comprise the consolidated statement of financial position as at 31 March 2018, and the consolidated statement of operations and accumulated deficit, consolidated statement of remeasurement gains and losses, consolidated statement of change in net debt and consolidated statement of cash flows for the year then ended, and a summary of significant accounting policies and other explanatory information.

Management's Responsibility for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with Canadian public sector accounting standards, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

My responsibility is to express an opinion on these consolidated financial statements based on my audit. I conducted my audit in accordance with Canadian generally accepted auditing standards. Those standards require that I comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my audit opinion.

Opinion

In my opinion, the consolidated financial statements present fairly, in all material respects, the financial position of Atomic Energy of Canada Limited as at 31 March 2018, and the results of its operations, its remeasurement gains and losses, changes in its net debt, and its cash flows for the year then ended in accordance with Canadian public sector accounting standards.

Report on Other Legal and Regulatory Requirements

As required by the *Financial Administration Act*, I report that, in my opinion, the accounting principles in Canadian public sector accounting standards have been applied on a basis consistent with that of the preceding year.

Further, in my opinion, the transactions of Atomic Energy of Canada Limited and its wholly-owned subsidiary that have come to my notice during my audit of the consolidated financial statements have, in all significant respects, been in accordance with Part X of the *Financial Administration Act* and regulations, the *Canada Business Corporations Act*, the articles and by-laws of Atomic Energy of Canada Limited and its wholly-owned subsidiary, and the directive issued pursuant to section 89 of the *Financial Administration Act*.

Robert Wilson, CPA, CA
Principal
for the Auditor General of Canada

19 June 2018
Ottawa, Canada

CONSOLIDATED STATEMENT OF FINANCIAL POSITION

As at March 31

(thousands of Canadian dollars)	Notes	**2018**	2017
		$	$
Financial Assets			
Cash		**37,580**	37,024
Long-term disposal of waste fund	3	**25,992**	16,556
Investments held in trust	4	**50,658**	50,329
Trade and other receivables	5	**40,606**	70,909
Appropriations receivable	15	**103,825**	94,430
Inventories held for resale	6	**3,936**	4,369
Heavy water inventory	6	**188,643**	201,153
		451,240	474,770
Liabilities			
Accounts payable and accrued liabilities	7	**75,327**	71,511
Employee future benefits	8	**23,200**	25,160
Due to Canadian Nuclear Laboratories		**117,042**	111,663
Deferred decommissioning and waste management funding	9	**287,694**	269,512
Decommissioning and waste management provision	10	**6,473,301**	6,492,243
Contaminated sites liability	11	**988,243**	1,081,866
Customer advances and obligations		**1,869**	545
		7,966,676	8,052,500
Net Debt		**(7,515,436)**	(7,577,730)
Non-Financial Assets			
Tangible capital assets	12	**644,353**	594,674
Prepaid expenses		**1,985**	842
		646,338	595,516
Accumulated Deficit		**(6,869,098)**	(6,982,214)
Accumulated deficit is comprised of:			
Accumulated operating deficit		**(6,868,978)**	(6,983,092)
Accumulated remeasurement (losses) gains		**(120)**	878
		(6,869,098)	(6,982,214)
Commitments	13		
Contingent liabilities	14		

The accompanying notes are an integral part of these consolidated financial statements

Approved on behalf of the Board

Martha Tory, Director

Richard Sexton, President and Chief Executive Officer

CONSOLIDATED STATEMENT OF OPERATIONS AND ACCUMULATED DEFICIT

For the year ended March 31

(thousands of Canadian dollars)	Notes	2018 Budget	**2018**	2017
		$	**$**	$
Revenues				
Parliamentary appropriations	15	966,368	**826,295**	784,133
Commercial revenue		77,800	**87,526**	110,730
Interest income		4,000	**3,928**	4,867
		1,048,168	**917,749**	899,730
Expenses				
Cost of sales		42,790	**64,752**	84,240
Operating expenses		52,293	**96,106**	67,803
Contractual expenses	16	339,181	**322,508**	331,887
Decommissioning, waste management and contaminated sites expenses		283,897	**294,678**	26,095
Wrap-Up Office activities		12,000	**5,246**	5,431
	17	730,161	**783,290**	515,456
Surplus for the year		318,007	**134,459**	384,274
Accumulated operating deficit, beginning of year		(6,983,092)	**(6,983,092)**	(7,338,581)
Transfer to deferred decommissioning and waste management funding	9	(18,000)	**(18,182)**	(24,501)
Transfer to repayable contributions	9	(5,000)	**(2,163)**	(4,284)
Accumulated operating deficit, end of year		(6,688,085)	**(6,868,978)**	(6,983,092)

The accompanying notes are an integral part of these consolidated financial statements

CONSOLIDATED STATEMENT OF REMEASUREMENT GAINS AND LOSSES

For the year ended March 31

(thousands of Canadian dollars)	**2018**	2017
	$	$
Accumulated remeasurement gains, beginning of year	**878**	1,301
Remeasurement losses arising during the year		
Unrealized losses on Investments held in trust	**(985)**	(80)
Reclassifications to the Consolidated Statement of Operations and Accumulated Deficit		
Realized gains on Investments held in trust	**(13)**	(343)
Net remeasurement losses for the year	**(998)**	(423)
Accumulated remeasurement (losses) gains, end of year	**(120)**	878

The accompanying notes are an integral part of these consolidated financial statements

CONSOLIDATED STATEMENT OF CHANGE IN NET DEBT

For the year ended March 31

(thousands of Canadian dollars)	Notes	2018 Budget	**2018**	2017
		$	**$**	$
Surplus for the year		318,007	**134,459**	384,274
Tangible capital assets				
Acquisition of tangible capital assets	12	(165,000)	**(115,553)**	(132,959)
Amortization of tangible capital assets	12	35,350	**40,754**	31,813
Write-down of tangible capital assets	12	-	**22,445**	14,312
Other changes	12	-	**2,675**	(2,353)
		(129,650)	**(49,679)**	(89,187)
Non-financial assets				
Changes in prepaid expenses		-	**(1,143)**	(412)
Net remeasurement losses for the year		-	**(998)**	(423)
Increase in net debt		188,357	**82,639**	294,252
Net debt at beginning of year		(7,577,730)	**(7,577,730)**	(7,843,197)
Transfer to deferred decommissioning and waste management funding		(18,000)	**(18,182)**	(24,501)
Transfer to repayable contributions		(5,000)	**(2,163)**	(4,284)
Net debt at end of year		(7,412,373)	**(7,515,436)**	(7,577,730)

The accompanying notes are an integral part of these consolidated financial statements

CONSOLIDATED STATEMENT OF CASH FLOWS

For the year ended March 31

(thousands of Canadian dollars)	**2018**	2017
	$	$
Operating transactions		
Cash receipts from Parliamentary appropriations	**816,900**	709,103
Cash receipts from customers	**112,859**	145,997
Cash paid to suppliers	**(388,954)**	(404,178)
Cash paid to employees	**(15,416)**	(14,860)
Cash paid for decommissioning, waste management and contaminated sites activities	**(407,243)**	(345,493)
Interest received	**1,832**	1,064
Cash provided by operating transactions	**119,978**	91,633
Capital transactions		
Acquisition of tangible capital assets	**(119,422)**	(139,162)
Cash applied to capital transactions	**(119,422)**	(139,162)
Increase (decrease) in cash	**556**	(47,529)
Cash at beginning of year	**37,024**	84,553
Cash at end of year	**37,580**	37,024

The accompanying notes are an integral part of these consolidated financial statements

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

For the year ended March 31, 2018

1. General Information

Atomic Energy of Canada Limited (AECL) is a federal Crown corporation whose mandate is to enable nuclear science and technology and manage Canada's radioactive waste and decommissioning activities. Since 2015, AECL has been delivering its mandate through a Government-owned, Contractor-operated model, whereby Canadian Nuclear Laboratories (CNL), a private-sector organization, operates and manages AECL's sites on its behalf pursuant to a contractual arrangement.

AECL also manages the retained liabilities associated with its former CANDU Reactor Division (Commercial Operations), which was sold to Candu Energy Inc., a wholly-owned subsidiary of SNC-Lavalin, on October 2, 2011. These activities are referred to as the Wrap-Up Office.

AECL was incorporated in 1952 under the provisions of the *Canada Corporations Act* (and continued in 1977 under the provisions of the *Canada Business Corporations Act*), pursuant to the authority and powers of the Minister of Natural Resources under the *Nuclear Energy Act*.

In July 2015, AECL was issued a directive (P.C. 2015-1111) pursuant to section 89 of the *Financial Administration Act* to align its travel, hospitality, conference and event expenditure policies, guidelines and practices with Treasury Board policies, directives and related instruments on travel, hospitality, conference and event expenditures in a manner that is consistent with its legal obligations, and to report on the implementation of this directive in AECL's next Corporate Plan. As at March 31, 2018, AECL remains compliant with the requirements of the directive.

AECL is a Schedule III Part I Crown corporation under the *Financial Administration Act* and an agent of Her Majesty in Right of Canada. As a result, AECL's liabilities are ultimately liabilities of Her Majesty in Right of Canada. AECL receives funding from the Government of Canada and is exempt from income taxes in Canada.

AECL's 2018-2019 to 2022-2023 Corporate Plan received Governor in Council approval in the first quarter of the 2018-19 fiscal year. The Corporate Plan is aligned with the direction provided by AECL's sole shareholder, the Government of Canada, and reflects AECL's priorities under the Government-owned, Contractor-operated model.

2. Significant Accounting Policies

a) Basis of Accounting

These consolidated financial statements have been prepared in accordance with Canadian Public Sector Accounting Standards (PSAS) established by the Public Sector Accounting Board (PSAB), and reflect the policies below.

Both financial and non-financial assets are reported on the Consolidated Statement of Financial Position. Non-financial assets are normally employed to provide future services, and are charged to expense through amortization or upon utilization. Non-financial assets are not taken into consideration when determining the net debt (or net financial assets), but rather are added to the net debt (or net financial assets) to determine the accumulated surplus (deficit).

Measurement Uncertainty

The preparation of the consolidated financial statements in accordance with PSAS requires management to make estimates and assumptions that affect the reported amounts of financial assets, liabilities and non-financial assets at the date of the financial statements, and the reported amounts of revenue and expenses during the reporting period. Items requiring the use of significant estimates and assumptions include those related to the fair value of financial instruments, useful life and write-down of tangible capital assets, employee future benefits, contingent liabilities and provisions including the decommissioning and waste management provision and contaminated sites liability. Estimates and assumptions are based on the best information available at the time of preparation of the consolidated financial statements and are reviewed annually to reflect new information as it becomes available. Where actual results differ from these estimates and assumptions, the impact will be recorded in future periods when the difference becomes known.

Budget Figures

The 2017-18 budget is reflected in the Consolidated Statement of Operations and Accumulated Deficit and the Consolidated Statement of Change in Net Debt. Budget data for 2017-18 presented in these consolidated financial statements is based upon the 2017-18 projections and estimates contained within the 2017-18 to 2021-22 Corporate Plan.

b) Basis of Consolidation

Subsidiaries are entities controlled by AECL. The financial statements of subsidiaries are included in the consolidated financial statements from the date that control commences until the date that control ceases. The accounting policies of subsidiaries are changed when necessary to align them with the policies of AECL. These consolidated financial statements include the accounts of AECL's wholly-owned but inactive subsidiary, AECL Technologies B.V., incorporated in the Netherlands in 1995.

c) Foreign Currency Translation

Transactions denominated in a foreign currency are translated into Canadian dollars at the exchange rate in effect at the date of the transaction. Monetary assets and liabilities, not denominated in the functional currency of AECL, outstanding at the consolidated statement of financial position date are adjusted to reflect the exchange rate in effect at that date. Realized exchange gains and losses arising from the translation of foreign currencies are included in the Consolidated Statement of Operations and Accumulated Deficit.

d) Financial Instruments

AECL's Cash, Trade and other receivables, Long-term disposal of waste fund, Trade and other payables, Customer advances, and Due to Canadian Nuclear Laboratories are measured at amortized cost. Transaction costs are a component of cost for financial instruments measured using cost or amortized cost.

AECL has elected to measure Investments held in trust at fair value, to correspond with how they are evaluated and managed. These financial instruments are not reclassified for the duration of the period they are held. Unrealized gains and losses from changes in the fair value of financial instruments are recognized in the Consolidated Statement of Remeasurement Gains and Losses. Upon settlement, the cumulative gain or loss is reclassified from the Consolidated Statement of Remeasurement Gains and Losses and recognized in the Consolidated Statement of Operations and Accumulated Deficit. Transaction costs are expensed for financial instruments measured at fair value.

Interest and dividends attributable to financial instruments are reported in the Consolidated Statement of Operations and Accumulated Deficit.

e) Long-term Disposal of Waste Fund

Cash has been invested in a fund to cover the costs of the future disposal of radioactive waste generated after September 13, 2015. This fund, established and maintained by AECL, is intended to provide funding for the future disposal costs associated with radioactive waste generated from ongoing operations at AECL sites.

Interest earned is included in Interest income in the Consolidated Statement of Operations and Accumulated Deficit.

f) Investments Held in Trust

The Trust Fund is a special fund established pursuant to the *Nuclear Fuel Waste Act* to finance the implementation of an approach for the long-term management of nuclear fuel waste. Management has determined that AECL, in substance, controls the Trust Fund. Accordingly, the Trust Fund has been consolidated into AECL's consolidated financial statements.

Interest earned is included in Interest income in the Consolidated Statement of Operations and Accumulated Deficit.

g) Inventory

Heavy water, mechanical seals and reactor fuel are measured at the lower of cost and net realizable value. Cost includes amounts for improvements to prepare the assets for sale. Net realizable value is the estimated selling price in the ordinary course of business, less the estimated costs of completion and selling expenses. Where cost exceeds net realizable value, a write-down is recorded.

h) Employee Future Benefits

AECL provides employee benefits such as pension benefits, voluntary termination compensation benefits and other benefits, including continuation of health and dental benefits during long-term disability, and self-insured workers' compensation.

Pension Benefits

Substantially all of the employees of AECL are covered by the Public Service Pension Plan (PSPP), a contributory defined benefit plan established through legislation and sponsored by the Government of Canada. Contributions are required by both the employees and AECL to cover current service cost.

Pursuant to legislation currently in place, AECL has no legal or constructive obligation to pay further contributions with respect to any past service or funding deficiencies of the PSPP. Consequently, contributions are recognized as an expense in the year when employees have rendered service and represent the total pension obligation of AECL

Non-Pension Post-Employment Benefit Plans

AECL's obligation with respect to its non-pension post-employment defined benefit plans is the amount of future benefit that employees have earned in return for their service in the current and prior periods. These benefits include voluntary termination compensation benefits.

That obligation is discounted to determine its present value. The calculation is performed annually by a qualified actuary using the projected benefit method prorated on service and Management's best estimate of salary escalation, retirement ages of employees, mortality and expected employee turnover.

The discount rate is based on AECL's cost of borrowing as determined based on long-term Government of Canada bond yields. AECL amortizes any actuarial gains and losses arising from non-pension defined benefit plans into the Consolidated Statement of Operations and Accumulated Deficit over the expected average remaining service life.

Other Long-term Employee Benefits

AECL's obligation with respect to other long-term employee benefits is the amount of future benefit that employees have earned in return for their service in the current and prior periods. These benefits include self-insured workers' compensation benefits and health and dental care benefits during long-term disability.

That obligation is discounted to determine its present value. The discount rate is based on AECL's cost of borrowing as determined based on long-term Government of Canada bond yields. The calculation is performed using a combination of the Projected Unit Credit Method prorated on service and event-driven calculations for Workers' Compensation. Any actuarial gains and losses are amortized into the Consolidated Statement of Operations and Accumulated Deficit over the expected average remaining service life.

AECL expenses amounts reimbursed to Employment and Social Development Canada for workers' compensation claims in accordance with the *Government Employees Compensation Act* for current payments billed by the provincial compensation boards.

Short-Term Employee Benefits

Short-term employee benefit obligations are measured on an undiscounted basis and are expensed as the related service is provided. A liability is recognized for the amount expected to be paid under short-term incentive plans if AECL has a present legal or constructive obligation to pay this amount as a result of past service provided by the employee, and if the obligation can be estimated reliably.

i) Decommissioning and Waste Management Provision

AECL has obligations to decommission nuclear facilities and to manage radioactive waste in order to protect the environment and satisfy regulatory requirements. The best estimate of an obligation is recognized in the period in which a reasonable estimate can be determined and it is probable that an outflow of economic benefits will be required to settle the obligation.

The provision takes into account current technological, environmental and regulatory requirements and is determined by discounting the expected future cash flows at a rate that reflects current market assessments of the time value of money and the risks specific to the provision. The estimated future cash forecasts are adjusted for inflation using a rate that is derived on the basis of Consensus Economics forecasts and Bank of Canada historical and target inflation rates.

As the provision is recorded based on a discounted value of the projected future cash flows, it is increased quarterly to reflect the passage of time by removing one quarter's discount. The unwinding of the discount is charged to Decommissioning, waste management and contaminated sites expenses in the Consolidated Statement of Operations and Accumulated Deficit.

The provision is reduced by actual expenditures incurred. The cost estimate is subject to periodic review and any significant changes in the estimated amount or timing of the underlying future cash flows are recorded as an adjustment to the provision. The provision includes future construction costs associated with certain enabling facilities, such as disposal facilities for nuclear waste.

Decommissioning costs of new assets are added to the carrying amount, where they are determined to provide a future economic benefit to AECL, and amortized over the related assets' useful lives. The effect of subsequent changes in estimating an obligation for which the provision was recognized as part of the cost of the asset is adjusted against the asset.

j) Contaminated Sites Liability

AECL recognizes a provision for contaminated sites when all of the following conditions are prevalent: an environmental standard exists; the level of contamination has been determined to exceed the environmental standard and AECL is directly responsible or accepts responsibility; it is expected that future economic benefits will be given up; and a reasonable estimate of the amount can be made at that time. The liability includes all costs directly attributable to remediation activities including post remediation operations, maintenance and monitoring. The liability is determined by discounting the expected future cash flows at a rate that reflects current market assessments of the time value of money.

k) Trade and Other Receivables, Customer Advances and Obligations

Certain contracts may have revenue recognized in excess of billings (unbilled revenues) and other contracts may have billings in excess of revenue recognized (customer advances and obligations). Unbilled revenues are recorded as an asset and included in Trade and other receivables. Billings collected in excess of revenue recognized on contracts and advances for which the related work has not started are recognized as a liability and included in Customer advances and obligations in accordance with AECL's revenue recognition policy.

l) Tangible Capital Assets

Tangible capital assets are recorded at cost less accumulated amortization. Cost includes amounts that are directly related to the acquisition, design, construction, development, improvement or betterment of the assets, overhead directly attributable to the construction and development, as well as the costs of dismantling and removing the items and restoring the site on which they are located.

The cost of tangible capital assets in use is amortized on a straight-line basis over the estimated useful life, as follows:

Asset	**Rate**
Land Improvements	10-20 years
Buildings	20-40 years
Reactors, Machinery & Equipment	3-40 years

Construction in progress represents assets that are not yet available for use and therefore are not subject to amortization. When complete, the constructed asset is transferred to the appropriate category of tangible capital asset and amortized at the rate applicable to that category. Amortization commences when the asset is put into use and ceases when it no longer provides any further economic benefit to AECL or when it is no longer in service.

When conditions indicate that a tangible capital asset no longer contributes to AECL's ability to provide goods and services, or that the value of future economic benefits associated with the tangible capital asset is less than its net book value, the cost of the tangible capital asset is reduced to reflect the decline in the asset's value. The net write-down is then accounted for as an expense in the Consolidated Statement of Operations and Accumulated Deficit.

Useful lives are assessed annually and revisions to the useful life are made as required.

AECL has unrecognized intangible intellectual property assets. Intangible assets are not recognized in the financial statements.

m) Revenue Recognition

Revenue is derived from sales of services and products. Revenue is recognized in the period in which the transactions or events occurred that gave rise to the revenues. All revenue is recorded on an accrual basis, except when the accruals cannot be determined with a reasonable degree of certainty or when their estimation is impracticable. Revenue related to fees or services received in advance of the fee being earned or the service is performed is deferred and recognized when the fee is earned or service performed.

Cost-reimbursement contracts

Revenue under cost-reimbursement contracts is recognized as reimbursable costs are incurred and includes a proportion of fees earned.

Other service contracts

When services are performed over a specified period of time, revenue is recognized on a straight-line basis unless there is evidence that some other method better represents the stage of completion. For waste management services, revenue is recognized based on the contractual arrangements specified in a contract for disposal with the customer.

Supply of product

Revenue is recognized when the risks and rewards of ownership have been transferred to the customer, which generally coincides with the transfer of title. When goods require significant tailoring, modification or integration, the revenue is recognized using the percentage-of-completion method.

Royalty revenue

Revenue from licensing of intellectual property is recorded as revenue in accordance with the terms of the specific agreement. These arrangements entitle AECL to receive payment from the sale to the licensee of CANDU and CANDU-related technologies for future new build, life extension and other projects pursuant to the licensing agreement.

n) Parliamentary Appropriations

AECL receives Parliamentary appropriations for operating expenditures and tangible capital assets. These Parliamentary appropriations are free of any stipulations limiting their use, and are recorded as funding from the Government of Canada in the Consolidated Statement of Operations and Accumulated Deficit, up to the authorized amount, where eligibility criteria have been met.

o) Interest Income

Interest income earned on Cash, Long-term disposal of waste fund, short-term investments from appropriations and Investments held in trust is recognized in the Consolidated Statement of Operations and Accumulated Deficit.

p) Contingent Liabilities

Contingent liabilities are potential liabilities which may become actual liabilities when one or more future events occur or fail to occur. To the extent that the future event is likely to occur or fail to occur, and a reasonable estimate of the obligation can be made by AECL, an estimated liability is accrued and an expense recorded. If the likelihood is not determinable, or an amount cannot be reasonably estimated, the contingency is disclosed in the notes to the financial statements.

q) Standards and Guidelines

The following standards and guidelines have been issued by the PSAB effective April 1, 2017 and were adopted prospectively by AECL on April 1, 2017. Their adoption did not have a significant impact on the consolidated financial statements and no adjustment was required to the opening accumulated deficit:

PS 2200 Related party disclosures: This new Section defines a related party and establishes disclosures required for related party transactions.

PS 3210 Assets: This new Section provides guidance for applying the definition of assets set out in Financial statement concepts, Section PS 1000, and establishes general disclosure standards for assets.

PS 3320 Contingent assets: This new Section defines and establishes disclosure standards on contingent assets.

PS 3380 Contractual rights: This new Section defines and establishes disclosure standards on contractual rights.

PS 3420 Inter-entity transactions: This new Section establishes standards on how to account for and report transactions between public sector entities that comprise a government's reporting entity from both a provider and recipient perspective.

r) Standards and Guidelines Issued to be Adopted at a Later Date

The following standard has been issued by the PSAB:

PS 3430 Restructuring Transactions: This new Section defines a restructuring transaction and establishes standards for recognizing and measuring assets and liabilities transferred in a restructuring transaction.

This Section applies to restructuring transactions occurring in fiscal years beginning on or after April 1, 2018.

AECL intends to adopt this standard when it becomes applicable. While AECL is currently evaluating the impact of adopting this standard on its consolidated financial statements, it is not expected to have a significant impact on AECL's financial reporting.

3. Long-term Disposal of Waste Fund

AECL is required to invest cash in a fund to cover the costs related to the future disposal of radioactive waste arising from ongoing operations at its sites. This fund is intended to cover the future disposal costs associated with radioactive waste generated after September 13, 2015. The cash dedicated to this purpose is not expected to be used in the upcoming fiscal year. The cash is invested in a term deposit that can be accessed on short notice by AECL. The fund is comprised of the following:

		March 31			
(thousands of Canadian dollars)	Maturities	**2018**	**Yield**	2017	Yield
		$	**%**	$	%
Cash equivalents	Not applicable	**25,992**	**1.5**	16,556	0.0
		25,992		16,556	

4. Investments Held In Trust

The *Nuclear Fuel Waste Act* requires Canadian nuclear utilities to form a waste management organization, the Nuclear Waste Management Organization (NWMO), to provide recommendations to the Government of Canada on the long-term management of nuclear fuel waste and to implement the approach selected. The legislation also requires that each nuclear fuel waste owner establish a trust fund to finance the implementation of the approach proposed by the NWMO. The liability for AECL's nuclear fuel waste is recorded in the Decommissioning and waste management provision (Note 10).

Each individual trust fund is held in order to meet the requirements of the Act and only the NWMO may withdraw monies from it in accordance with the provisions of the Act, Section II. As required by the Act, AECL's initial deposit to its Trust Fund was $10 million on November 25, 2002. Subsequent annual deposits have been made as required, and will continue until the full lifecycle costs of managing the nuclear fuel waste over the long-term are set aside.

AECL's trust fund, managed by CIBC on behalf of AECL, invests in fixed income instruments, with various maturities. The fund has been consolidated and the investments held by the fund are measured at fair value. Quoted market values for the instruments or similar instruments, in the case of the bonds, are estimated at $50.7 million as at March 31, 2018 (March 31, 2017 – $50.3 million). Interest earned on trust assets accrues to the Trust Fund. Interest earned on these instruments is fixed, whereas the fair values of the instruments vary according to the prevailing market rate of interest. These investments are comprised of the following:

		March 31			
(thousands of Canadian dollars)	Maturities	**2018**	**Yield**	2017	Yield
		$	**%**	$	%
Cash equivalents*	Not applicable	**216**	**0.0**	102	0.0
Canadian government bonds**	September 2019 - April 2035	**26,891**	**2.3**	24,946	2.7
Corporate bonds	February 2020 - December 2026	**23,551**	**2.3**	25,281	2.2
		50,658		50,329	

* *Cash equivalents consist mainly of short-term money market instruments with original maturities less than 90 days.*

** *Canadian government bonds include federal, provincial and municipal bonds.*

5. Trade and Other Receivables

	March 31	
(thousands of Canadian dollars)	**2018**	2017
	$	$
Trade receivables	**16,576**	18,058
Less: allowance for doubtful accounts	**(3,419)**	(3,419)
Net trade receivables	**13,157**	14,639
Other receivables:		
Unbilled revenue	**10,594**	7,632
Consumption taxes receivable	**9,460**	11,825
Contract receivables from customers in respect of the financing of products and services, maturing through 2019 at fixed repayment amounts	**7,095**	28,096
Finance lease receivable	**-**	7,619
Other receivables	**300**	1,098
	40,606	70,909

The contract receivables primarily relate to heavy water sales in prior years. The amount is repayable to AECL based on a fixed repayment schedule through 2019. The implicit interest rate in the receivable is 5.77% per annum. There is no valuation allowance currently recorded and no security held in respect of this receivable.

AECL is exposed to normal credit risk with respect to its Trade and other receivables and maintains allowances for specific potential credit losses. The allowance for doubtful accounts represents Management's estimate of the expected credit losses to be incurred and is based on past experience with similar receivables and economic conditions. Should actual credit losses differ from Management's current estimates, future earnings will be affected. AECL is working to collect its outstanding trade receivables in accordance with the terms of the sales contracts.

AECL's exposure to credit risks related to Trade and other receivables, including unbilled revenue, is disclosed in Note 18. The change in allowance for doubtful accounts was as follows:

	March 31	
(thousands of Canadian dollars)	**2018**	2017
	$	$
Balance at beginning of year	**(3,419)**	(3,419)
Charges	**-**	-
Reversals	**-**	-
Balance at end of year	**(3,419)**	(3,419)

6. Inventory

	March 31	
(thousands of Canadian dollars)	**2018**	2017
	$	$
Mechanical seals	**3,936**	4,369
Heavy water inventory	**188,643**	201,153

The cost of inventory for reactor fuel and mechanical seals recognized as an expense and included in Cost of sales was $0.4 million (2017 – $1.1 million). The total amount of reactor fuel and mechanical seals inventory written down and recognized as an expense in Operating expenses in the Consolidated Statement of Operations and Accumulated Deficit in 2018 was $nil (2017 – $1.7 million).

In addition to internal consumption of heavy water at the Chalk River Laboratories, which was $nil (2017 – $0.3 million), the cost of inventory for heavy water recognized as an expense and included in Cost of sales was $10.0 million (2017 – $11.5 million). The total amount of heavy water written down and recognized as an expense in Operating expenses in the Consolidated Statement of Operations and Accumulated Deficit in 2018 was $2.5 million (2017 – $nil).

AECL had no inventory pledged as security for liabilities.

7. Accounts Payable and Accrued Liabilities

	March 31	
(thousands of Canadian dollars)	**2018**	2017
	$	$
Trade payables	**7,927**	5,864
Other payables and accrued expenses	**20,364**	19,027
Accrued payroll liabilities	**2,380**	3,555
Amounts due to related parties	**38,603**	36,912
Provisions	**6,053**	6,153
	75,327	71,511

The carrying values of trade and other payables are considered to be a reasonable approximation of fair value due to their short-term nature.

The Amounts due to related parties represent Royalty revenues and cash proceeds from the sales of heavy water (Note 9).

Provision amounts are short-term in nature and are not discounted and include exposure to claims related to life extension projects as well as lawsuits and legal claims and disputes with suppliers.

8. Employee Benefits

a) Pension Plan

As described in Note 2(h), AECL's employees participate in the Public Service Pension Plan (PSPP). Contributions are made to three accounts: Public Service Superannuation Account, Public Service Pension Fund account, and the Retirement Compensation Arrangement account.

Substantially all of the employees of AECL are covered by the PSPP, a contributory defined benefit plan established through legislation and sponsored by the Government of Canada. Contributions are required by both the employees and AECL. The President of the Treasury Board of Canada sets the required employer contributions based on a multiple of the employees' required contribution. The general employer contribution rate effective during the year was 22.4% of employee salaries (2017 – 18.5%). Total contributions of $2.8 million (2017 - $2.2 million) were recognized as an expense in the year.

The Government of Canada holds a statutory obligation for the payment of benefits relating to the PSPP. Pension benefits generally accrue up to a maximum period of 35 years at an annual rate of two per cent of pensionable service, times the average of the best five consecutive years of earnings. The benefits are coordinated with Canada/Québec Pension Plan benefits and they are indexed to inflation.

Total contributions made on account of current service are as follows:

	March 31	
(thousands of Canadian dollars)	**2018**	2017
	$	$
Payments by employees	**867**	761
Payments by employer	**2,773**	2,203

AECL's rate of contribution to the Public Service Superannuation Account (PSSA) equals the employee contributions and AECL's contributions to the Public Service Pension Fund account is a 1.01 multiple of the employee contributions (March 31, 2017 - 1.01). AECL's contribution to the Retirement Compensation Arrangement account for calendar year 2018 is a multiple of 3.20 of the employee contributions (calendar year 2017 – 7.74). The multiple is subject to change based on revaluation by the PSPP administration.

b) Other Employee Future Benefits

AECL provides certain voluntary termination compensation (VTC) and other post-employment benefits as described in Note 2(h). The defined benefit obligation is not funded, as funding is provided when benefits are paid. Accordingly, there are no plan assets and the defined plan deficit is equal to the defined benefit obligation.

The VTC is payable in instances of future voluntary resignations and retirements. Consistent with Government of Canada expectations of federal agencies or Crown corporations, AECL began eliminating this benefit in fiscal 2012-2013.

The VTC included in the 2018 Employee future benefits liability is $9.6 million (2017 - $10.5 million). This balance includes the amounts for employees who have chosen to defer payment to the time of the termination of their employment and those whose bargaining units have not negotiated or ratified agreements to eliminate the VTC as of March 31, 2018.

The measurement date of the Employee future benefits liability is March 31, 2018, and the latest actuarial valuation of these benefits was performed at that date. The weighted average duration of the defined benefit obligation at the end of the reporting period is 8.1 years (2017 – 8.0 years). The amortization period for post-employment benefits is 10 years. The amortization period for other long-term benefits is 13 years.

The following summarizes the activity in the post-employment and other long-term benefit plans:

	March 31	
(thousands of Canadian dollars)	**2018**	2017
	$	$
Accrued benefit obligation, beginning of year	**22,128**	26,266
Benefits earned	**81**	66
Interest on Accrued benefit obligation	**462**	474
Benefits paid	**(2,222)**	(3,176)
Actuarial gain	**(55)**	(1,502)
Cost of plan amendments	**(28)**	-
Accrued benefit obligation, end of year	**20,366**	22,128
Less: Unamortized actuarial gain	**(2,834)**	(3,032)
Employee future benefits liability	**23,200**	25,160

The following summarizes expenses arising from AECL's post-employment and other long-term benefit plans in the Consolidated Statement of Operations and Accumulated Deficit and in the Consolidated Statement of Financial Position:

	March 31	
(thousands of Canadian dollars)	**2018**	2017
	$	$
Benefit and interest expense		
Benefits earned	**81**	66
Cost of plan amendments	**(28)**	-
Amortization of actuarial gain recognized	**(251)**	(127)
Total benefit expense	**(198)**	(61)
Interest on Accrued benefit obligation	**462**	474
Total benefit and interest expense	**264**	413

The Total benefit and interest expense relating to AECL employees is recognized in Cost of sales and Operating expenses in the Consolidated Statement of Operations and Accumulated Deficit.

The significant actuarial assumptions adopted in measuring AECL's Employee future benefits are summarized as follows:

	March 31	
	2018	2017
	%	%
Discount rate at year-end	**2.10**	2.20
Rate of increase in salaries	**2.75**	2.75
Health care cost trend	**4.00**	4.00

The mortality rates are those used by the Canadian Pensioners' Mortality for 2014. The disabled mortality rates are those used for the valuation of the benefit liabilities of the schedule 1 insurance fund of the WSIB of Ontario as of December 31, 2015.

The Employee future benefits liability and costs are subject to measurement uncertainty due to the use of actuarial assumptions. The impact of these factors on the remeasurement of the Employee future benefits liability can be significant and volatile at times. Detailed sensitivity analysis disclosures have not been provided as the impacts of the sensitivity analyses performed did not result in material changes to the recognized balances.

9. Deferred Decommissioning and Waste Management Funding

In 1993, the Government transferred heavy water to AECL, the value of which was recorded directly in Accumulated deficit. As part of a 1996 decision, the Treasury Board directed AECL to utilize the proceeds from the sale or lease of this heavy water during the period from 1997 to 2006 for use in decommissioning activities. As a result, an amount equal to the cash proceeds received in the fiscal year from any lease arrangement entered into during that 10 year period for this Government-funded heavy water is transferred from Accumulated deficit to Deferred decommissioning and waste management funding. During the year ended March 31, 2018, $18.2 million (2017 - $24.5 million) of proceeds were received and transferred from Accumulated deficit to Deferred decommissioning and waste management funding in the Consolidated Statement of Operations and Accumulated Deficit.

Cash proceeds from the sale or lease of heavy water related to contracts entered into after 2006 are recorded as amounts due to related parties included in Accounts payable and accrued liabilities (Note 7) on the Consolidated Statement of Financial Position.

10. Decommissioning and Waste Management Provision

AECL has an obligation to decommission its nuclear facilities and other assets in order to address its liabilities, reduce risk, protect the environment and meet applicable regulatory requirements. These facilities include prototype reactors, heavy water plants, nuclear research and development laboratories, waste management and other facilities. Due to the variety of facilities, the decommissioning process may differ in each case. In some situations, decommissioning activities are carried out in stages, with intervals of several decades between them, to allow radioactivity to decay before moving on to the next stage. These activities include surveillance and monitoring, decontamination, demolition and the management of the associated waste. A portion of the liabilities relate to obligations that existed prior to the creation of AECL in 1952.

The Decommissioning and waste management provision is as follows:

	March 31	
(thousands of Canadian dollars)	**2018**	2017
	$	$
Carrying amount - Beginning of year	**6,492,243**	6,763,423
Liabilities settled	**(309,228)**	(250,002)
Unwinding of discount	**251,866**	262,387
Revision in estimate and timing of expenditures	**38,420**	(283,565)
Carrying amount - End of year	**6,473,301**	6,492,243

The undiscounted future expenditures, adjusted for inflation, for the planned projects comprising the liability are $15,932.9 million (March 31, 2017 – $16,539.9 million). The provision is re-valued at the current discount rate in effect at each consolidated statement of financial position date.

Key assumptions used in determining the provision:

	March 31	
	2018	2017
Discount period	**146 years**	147 years
Discount rate	**3.88%**	3.88%
Inflation rate	**1.70%**	1.70%

The provision is highly sensitive to the interest rate used to discount the future expenditures. The following table outlines the sensitivity of a 1% change in the discount rate used to estimate the provision:

	March 31	
(thousands of Canadian dollars)	**2018**	2017
	$	$
1% increase	**(955,243)**	(980,569)
1% decrease	**1,303,872**	1,354,426

11. Contaminated Sites Liability

AECL has responsibility for the implementation of the Government of Canada's commitments with respect to the Port Hope Area Initiative and other historic low-level waste liabilities.

AECL has recognized a liability of $988.2 million (March 31, 2017: $1,081.9 million) for the Port Hope Area Initiative and the Low-Level Radioactive Waste Management Office using a net present value technique. The liability is discounted using net present value techniques at a rate of 2.16%. The estimated total undiscounted expenditures are $1,107.2 million (March 31, 2017: $1,213.5 million).

The nature of the Port Hope Area Initiative liability is the cleanup and safe long-term management of historic low-level radioactive waste in the Ontario municipalities of Port Hope and Clarington. This waste consists mainly of past process residues containing uranium and radium, and associated contaminated soils, the result of activities of a former federal Crown corporation and its private sector predecessors. The implementation phase is forecast to be complete in 2023-24, with long-term monitoring and maintenance expected to continue for 30 years after implementation.

AECL also has responsibility for the Low-Level Radioactive Waste Management Office which 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). Historic low-level radioactive waste is material contaminated with radioactivity resulting from the processing and shipment of uranium and radium. This cleanup is forecast to be complete by 2027-28.

	March 31	
(thousands of Canadian dollars)	**2018**	2017
	$	$
Carrying amount - Beginning of year	**1,081,866**	1,109,493
Liabilities settled	**(107,083)**	(84,378)
Unwinding of discount	**23,595**	24,409
Revision in estimate and timing of expenditures	**(10,135)**	32,342
Carrying amount - End of year	**988,243**	1,081,866

The liability is highly sensitive to the interest rate used to discount the future expenditures. The following table outlines the sensitivity of a 1% change in the discount rate used to estimate the liability:

	March 31	
(thousands of Canadian dollars)	**2018**	2017
	$	$
1% increase	**(45,714)**	(50,018)
1% decrease	**51,103**	55,973

12. Tangible Capital Assets

(thousands of Canadian dollars)	Construction in progress	Land and land improvements	Buildings	Reactors, Machinery and Equipment	Total
	$	$	$	$	$
Cost at March 31, 2017	**184,512**	**82,654**	**416,808**	**447,238**	**1,131,212**
Additions and transfers	115,553	2,839	19,629	64,963	202,984
Disposals and transfers	(86,822)	-	(1,406)	(23,809)	(112,037)
Write-downs	(22,445)	-	-	-	(22,445)
Cost at March 31, 2018	**190,798**	**85,493**	**435,031**	**488,392**	**1,199,714**
Accumulated amortization at March 31, 2017	**-**	**34,765**	**193,311**	**308,462**	**536,538**
Increase in amortization	-	3,908	9,137	27,710	40,755
Disposals	-	-	(849)	(21,083)	(21,932)
Accumulated amortization at March 31, 2018	**-**	**38,673**	**201,599**	**315,089**	**555,361**
Net carrying amount at March 31, 2017	**184,512**	**47,889**	**223,497**	**138,776**	**594,674**
Net carrying amount at March 31, 2018	**190,798**	**46,820**	**233,432**	**173,303**	**644,353**

(thousands of Canadian dollars)	Construction in progress	Land and land improvements	Buildings	Reactors, Machinery and Equipment	Total
	$	$	$	$	$
Cost at March 31, 2016	220,749	83,249	309,765	427,189	1,040,952
Additions and transfers	132,959	11,605	105,732	37,547	287,843
Disposals and transfers	(154,884)	(12,200)	(1,386)	(17,498)	(185,968)
Write-downs	(14,312)	-	-	-	(14,312)
Other changes	-	-	2,697	-	2,697
Cost at March 31, 2017	184,512	82,654	416,808	447,238	1,131,212
Accumulated amortization at March 31, 2016	-	41,617	187,824	306,024	535,465
Increase in amortization	-	5,371	6,741	19,701	31,813
Disposals	-	(12,223)	(1,254)	(17,263)	(30,740)
Accumulated amortization at March 31, 2017	-	34,765	193,311	308,462	536,538
Net carrying amount at March 31, 2016	220,749	41,632	121,941	121,165	505,487
Net carrying amount at March 31, 2017	184,512	47,889	223,497	138,776	594,674

The amortization and write-downs of Tangible capital assets are recognized in Operating expenses in the Consolidated Statement of Operations and Accumulated Deficit.

Write-downs of $22.4 million were recorded in 2018 (2017 – $14.3 million).

13. Commitments

a) Operating leases:

Non-cancellable operating lease rentals are payable as follows:

(thousands of Canadian dollars)	Leases
	$
2018-2019	917
2019-2020	511
2020-2021	95
2021-2022	96
2022-2023	96
2023 and thereafter	552
	2,267

AECL leases office space under operating leases with various expiration dates. The leases contain an escalation clause providing for additional rent. During the year ended March 31, 2018, an amount of $0.3 million (2017 – $0.5 million) was recognized for leases as an Operating expense in the Consolidated Statement of Operations and Accumulated Deficit.

The total of future sublease payments to be received is $1.0 million. These payments will conclude in 2020.

b) Operating and capital commitments:

The nature of AECL's activities can result in multiyear contracts and obligations whereby AECL is committed to make future payments. As at March 31, 2018, AECL has contractual arrangements with third party suppliers, including contracts that allow for termination with penalties, approximating $314.7 million. The majority of these commitments are held by CNL in accordance with the Government-owned, Contractor-operated model. Included in this amount are contracts related to the purchase of Tangible capital assets of approximately $11.9 million. The details of the Government-owned, Contractor-operated model are discussed in Note 16.

14. Contingent Liabilities

AECL is engaged in various legal proceedings and claims that have arisen in the ordinary course of business. The outcome of all of the proceedings and claims against AECL are not yet determinable and subject to future resolution, including the uncertainties of litigation. Based on information currently known to AECL and after consultation with outside legal counsel, Management believes that the probable ultimate resolution of any such proceedings and claims, individually or in the aggregate, will not have a material adverse effect on the financial position of AECL.

15. Funding

	March 31	
(thousands of Canadian dollars)	**2018**	2017
	$	$
Parliamentary appropriations for operating and capital expenditures		
Amount received during the year for operating and capital expenditures	**816,900**	709,103
Amount receivable at the end of the year	**103,825**	94,430
Amount receivable from a previous year	**(94,430)**	(19,400)
Total Parliamentary appropriations recognized	**826,295**	784,133

During the year, the above funding was received to support AECL and CNL planned activities. This funding was used in the following manner:

- Support the activities of the nuclear laboratories, including ongoing science and technology activities at the Chalk River site, capital infrastructure renewal, as well as the ongoing operations of the site in order to meet regulatory, health, safety and environmental needs and requirements.
- Decommissioning and waste management activities primarily at the Chalk River and Whiteshell sites and environmental remediation programs primarily in Port Hope.

The amounts approved for operating and capital expenditures for the year ending March 31, 2018 totaled $970 million.

16. Contractual Arrangement

Since 2015, AECL has been delivering its mandate through a Government-owned, Contractor-operated model whereby CNL operates and manages AECL's sites on its behalf.

Under the Government-owned, Contractor-operated model, the assets, sites and facilities continue to be owned by AECL, but are being managed and operated by a private-sector company. As such, AECL makes payments to CNL and its parent company, Canadian National Energy Alliance ("Contractual amounts paid or payable"), as per the terms of the contractual arrangement.

The following contractual expenditures were incurred:

	March 31	
(thousands of Canadian dollars)	**2018**	2017
	$	$
Contractual amounts paid or payable	**903,527**	864,930
Less: Costs charged to Decommissioning and waste management provision and Contaminated sites liability	**(413,550)**	(331,982)
Less: Costs charged to Construction in progress	**(115,553)**	(132,959)
Less: Costs classified as Cost of sales	**(51,916)**	(68,102)
Contractual expenses	**322,508**	331,887

Contractual amounts paid or payable include fees paid to Canadian National Energy Alliance, in accordance with the long-term contractual arrangement between AECL, Canadian National Energy Alliance and CNL.

17. Additional Information by Type of Expense

	March 31	
(thousands of Canadian dollars)	**2018**	2017
	$	$
Payroll expenses	**12,701**	11,932
General and administrative expenses	**3,319**	2,793
Site and program operating costs	**60,181**	45,573
Amortization of tangible capital assets	**40,754**	31,814
Realized gain on Investments held in trust	**(13)**	(343)
Contractual amounts paid or payable less costs charged to Construction in progress (Notes 12 and 16) and less liabilities settled for Decommissioning and waste management provision and Contaminated sites liability (Notes 10 and 11)	**371,670**	397,591
Finance expenses	**275,461**	286,796
Revaluation loss (gain) on decommissioning and waste management provision and other (Note 10)	**29,352**	(293,042)
Revaluation (gain) loss on contaminated site liabilities (Note 11)	**(10,135)**	32,342
	783,290	**515,456**

18. Financial Instruments

AECL has exposure to the following risks from its use of financial instruments: credit risk, market risk, regulatory risk and liquidity risk.

The Board of Directors ensures that AECL has identified its major risks and ensures that management effectively monitors and mitigates them.

a) Credit risk

Credit risk is the risk of financial loss to AECL if a customer or counterparty to a financial instrument fails to meet its contractual obligations. Such risks arise principally from certain financial assets held by AECL consisting of cash, investments and trade and other receivables. The maximum exposure to credit risk of AECL at March 31, 2018 is the carrying value of Cash, the Long-term disposal of waste fund, Investments held in trust and Trade and other receivables.

AECL manages its credit risk surrounding its Trade and other receivables of $40.6 million (2017 - $70.9 million) by dealing solely with reputable customers within a government regulated industry and evaluating customer creditworthiness before credit is extended. The risk is reduced by monitoring at the appropriate levels of management. The credit risk for Cash, the Long-term disposal of waste fund and Investments held in trust is minimized by ensuring these instruments are held with well-established financial institutions, invested in government and corporate bonds and applying a conservative investment strategy.

The aging of gross trade receivables was as follows:

	March 31	
(thousands of Canadian dollars)	**2018**	2017
	$	$
Current	**3,436**	11,117
Past due 1 to 30 days	**2,101**	1,368
Past due 31 to 60 days	**7,130**	1,408
Past due 61 to 90 days	**219**	440
Past due more than 90 days	**3,690**	3,725
	16,576	18,058

b) Market risk

Market risk is the risk that changes in market prices, such as those caused by changes in interest rates and foreign exchange rates, will affect AECL's income or the value of its holdings of financial instruments. The objective of market risk management is to control market risk exposures within acceptable parameters while optimizing the return on risk.

AECL's consolidated financial statements are presented in Canadian dollars, but a portion of its business is conducted in other currencies, with the exposure to foreign currency transactions primarily related to the U.S. dollar. The objective of AECL's foreign exchange risk management activities is to minimize transaction exposure and the resulting volatility of AECL's earnings and commitments. As of March 31, 2018 and March 31, 2017, had the exchange rate (CAN$/US$) been 5% higher or lower, the impact on the Consolidated Statement of Operations and Accumulated Deficit for the year would have been insignificant.

Interest rate risk is the risk that the fair value of future cash flows of a financial instrument will fluctuate because of changes in the market interest rates. The objective of AECL's interest rate management activities is to minimize the volatility of AECL's earnings and expenses. AECL's exposure to interest rate risk is limited to changes in interest rates associated with its investments in bonds and discount rates associated with the Decommissioning and waste management provision and Contaminated sites liability (Notes 10 and 11).

c) Regulatory risk

Regulatory risk is the risk that changes in government policy may have an adverse impact on AECL's financial position. AECL's sites are operated in a highly regulated business environment. Changes in government policy may have an adverse impact on AECL's financial position. AECL's objective in managing regulatory risk is to actively monitor and implement changes on a timely basis to enable operations. In 2018, AECL's regulatory risk management objectives were unchanged from those in 2017.

d) Liquidity risk

Liquidity risk is the risk that AECL will not be able to meet its financial obligations as they become due. AECL is economically dependent on appropriations that are received from the Government of Canada.

AECL manages liquidity risk by cross-functional participation in project and business reviews, frequent communication with its Shareholder to manage ongoing cash requirements and secure appropriate funding, and maintaining a portfolio of highly liquid investments or instruments readily convertible into liquidity with high-quality counterparties.

The aging of gross accounts payables was as follows:

	March 31	
(thousands of Canadian dollars)	**2018**	2017
	$	$
Current	**778**	5,022
1 to 30 days	**1,869**	542
31 to 60 days	**4,930**	-
61 to 90 days	**40**	-
More than 90 days	**310**	300
	7,927	5,864

All other financial liabilities, including Due to Canadian Nuclear Laboratories, are due within the year.

e) Fair value of financial instruments

Accounting standard guidance establishes a framework for measuring fair value and provides disclosure about fair value measurements. That framework provides a fair value hierarchy that gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to unobservable inputs (Level 3 measurements).

The carrying amounts of Cash, Trade and other receivables, Accounts payable and accrued liabilities, and Customer advances and obligations approximate fair value because of the short-term nature of these items.

The following table analyzes financial instruments measured at fair value, by valuation method. AECL uses the following hierarchy to classify fair value measurements:

Level 1: Quoted prices (unadjusted) in active markets for identical assets or liabilities.
Level 2: Inputs other than quoted prices included in Level 1 that are observable for the asset or liability, either directly (i.e., as prices) or indirectly (i.e., derived from prices).
Level 3: Inputs for the asset or liability that are not based on observable market data (unobservable inputs).

Changes in valuation methods may result in transfers into or out of levels 1, 2, and 3. For the reporting periods ended March 31, 2018 and March 31, 2017, there were no transfers between levels.

(thousands of Canadian dollars)	March 31, 2018 Level 1	Level 2	Level 3	Total
	$	**$**	**$**	**$**
Assets measured at fair value				
Investments held in trust - Cash equivalents	**216**	**-**	**-**	**216**
Investments held in trust - Bonds	**-**	**50,442**	**-**	**50,442**
	216	**50,442**	**-**	**50,658**

(thousands of Canadian dollars)	March 31, 2017 Level 1	Level 2	Level 3	Total
	$	$	$	$
Assets measured at fair value				
Investments held in trust - Cash equivalents	102	-	-	102
Investments held in trust - Bonds	-	50,227	-	50,227
	102	50,227	-	50,329

19. Related Party Transactions

AECL is related, in terms of common ownership, to all Government of Canada departments, agencies and Crown corporations. AECL enters into transactions with government entities in the normal course of business and on normal trade terms applicable to all individuals and enterprises. The transactions are measured at the exchange amount, which is the amount of consideration established and agreed to by the related parties.

In addition to the transactions disclosed in Notes 5, 7, 8, 9, 10, 11, 12 and 15, AECL, in the normal course of business, also entered into various transactions with the Government, its agencies and other Crown corporations.

AECL also has transactions with its key management personnel. Key management personnel are those persons having authority and responsibility for planning, directing and controlling the activities of AECL, including AECL's directors and executive officers. The table below summarizes the amounts paid or payable to key management personnel on a comparative basis.

(thousands of Canadian dollars)	March 31 **2018**	2017
	$	$
Salaries and other short-term benefits	**3,410**	2,988
Termination benefits	**343**	961
Post-employment benefits	**1,701**	1,151
	5,454	5,100

With the implementation of the Government-owned, Contractor-operated model in 2015, AECL transitioned from being a large Crown corporation to a small Crown corporation. As a result, AECL has, with the help of external compensation consultants, developed a compensation philosophy to align with its new role. The objective is to attract and retain the skills and expertise needed to fulfill its mandate and deliver value for money for Canada, including seeking international experts with experience in similar Government-owned, Contractor-operated models in the United Kingdom and the United States.

AECL's compensation philosophy is to align its total compensation with a comparator group, while recognizing that specific differentiation may be needed for hard-to-hire and/or specialized skills. It takes into account factors such as appropriate market comparators, the geographical location of AECL employees and the internationally limited availability of the specialized personnel needed to provide effective oversight of this complex model and the activities that are required to deliver on AECL's mandate. As part of its approach to compensation, AECL will periodically review its compensation philosophy, including the appropriateness of its comparator group and employee compensation relative to market median.

CORPORATE GOVERNANCE

The corporate governance structure of AECL is similar to that of other corporations incorporated pursuant to the *Canada Business Corporations Act* with the following important exceptions:

i. AECL is an agent and a parent Crown corporation and is subject to the provisions of Part X of the *Financial Administration Act* of Canada;
ii. The sole Shareholder of AECL is the Government of Canada as represented by the Minister of Natural Resources; and
iii. AECL's Board of Directors ("Board"), the Board Chair and the President and Chief Executive Officer are appointed by the Government of Canada by Order-in-Council.

AECL's President and CEO was appointed by the Governor-in-Council in February 2018 to serve a term of two years. The President and CEO leads AECL in achieving its mandate through a Government-owned, Contractor-operated model. All direct reports to the President and CEO are appointed by the Board of Directors through the Human Resources and Governance Committee on the recommendation of the President and CEO. Each of these direct reports is accountable for specific areas of business and operations.

BOARD OF DIRECTORS / OFFICERS

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 or Chair of a Board Committee, receives direction from AECL'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.

AECL's Board has two committees, the Audit Committee and Human Resources & Governance Committee, each having specific Charters that set out respective responsibilities for and on behalf of the Board.

In fiscal year 2017-18, the Board provided input, advice and perspectives on AECL's oversight role and contractual management of the GoCo model, oversaw AECL's Wrap-Up Office activities with respect to the resolution of legal liabilities that had been retained by AECL following the divestiture of its commercial operations, provided oversight over the management of corporate and business risks and continued to report to the Minister of Natural Resources with respect to the Board's fulfilment of its governance role and accountabilities.

As of March 31, 2018, the Board consisted of six Directors. Aside from the President and CEO of AECL, they were not members of AECL management nor did they receive compensation from AECL, other than director fees. Of note, Mr. Bob Hamilton, who served on the Board during the fiscal year until June 2017, as well as Mr. Philip Jennings, who was appointed to the Board in June 2017, did not receive any fees. AECL's Directors, the Chair of the Board and the President and CEO are appointed by the Government of Canada by Order-in-Council. A list of Board members during the fiscal year 2017-18, along with their term expiry date, is presented subsequently.

Dr. Claude Lajeunesse

Dr. Claude Lajeunesse is Chair of AECL's Board of Directors. He has been serving on AECL's board since March 2005, and has been in the role of Chair since August 2016.

Previously, Dr. Lajeunesse served as President and CEO of the Aerospace Industries Association of Canada, President of Concordia University in Montréal, and President and Vice-Chancellor of Ryerson University in Toronto. He is also past President and CEO of the Association of Universities and Colleges of Canada, now called Universities Canada.

Dr. Lajeunesse obtained his B.Sc.A. in engineering physics from École Polytechnique de Montréal before going on to achieve his M.Sc. and his Ph.D. in Nuclear Engineering from Rensselaer Polytechnic Institute in Troy, New York.

Committees: Human Resources and Governance; Audit

Ms. Martha Tory

Martha Tory was appointed to AECL's Board of Directors in October 2016 and serves as Chair of the Board's Audit Committee.

Ms. Tory retired in 2015 from Ernst & Young LLP where she was an audit partner with responsibility for clients in a variety of industries. She is currently involved as a Board member with a number of organizations: her current positions include being a Board member and Chair of the Audit Committee at HomEquity Bank, MaRS Discovery District, University of Toronto Press and George Brown College. She is also a Board member, member of the Audit Committee and Chair of the Business and Human Resources Committee at Sunnybrook Health Sciences Centre.

Ms. Tory is a member of the Accounting Standards Oversight Council, an independent body responsible for monitoring and evaluating the performance of and providing input into the strategic direction and priority setting of the Accounting Standards Board and Public Sector Accounting Board, the groups responsible for determining accounting standards for Canadian organizations.

Ms. Tory is a Chartered Professional Accountant and a Fellow of the Institute of Chartered Professional Accountants of Ontario. She holds the ICD.D designation from the Institute of Corporate Directors and a Bachelor of Commerce from the University of Toronto, Trinity College.

Committees: Human Resources and Governance; Audit (Chair as of July 2017)

Mr. James Burpee
Mr. Burpee was appointed to AECL's Board of Directors in June 2017 and serves as Chair of the Board's Human Resources and Governance Committee.

Mr. Burpee brings almost four decades of experience as a senior strategist in the electricity industry, having worked in a variety of senior management roles for Ontario Hydro and Ontario Power Generation. Mr. Burpee has also served as Chief Executive Officer at Bridge Renewable Energy Technologies Inc., a company which marketed Biomass Gasification Electricity Systems primarily in the developing world. Most recently, Mr. Burpee served as President and Chief Executive Officer of the Canadian Electricity Association.

Mr. Burpee also sat on the Board of the Energy Council of Canada and the Canadian Electricity Association, including one year as Chairperson.

Mr. Burpee is currently a Senior Counsel in the Energy and Environment Practice at Sussex Strategy Group.

Mr. Burpee holds a Bachelor of Applied Science in Mechanical Engineering from the University of Toronto and is a member of Professional Engineers Ontario and the Institute for Corporate Directors, and holds the ICD.D designation.

Committees: Human Resources and Governance (Chair as of September 2017); Audit

Ms. Carmen Abela
Carmen Abela was appointed to AECL's Board of Directors in June 2017.

Ms. Abela brings almost 20 years of experience advising senior leaders on public sector oversight, governance, accountability, internal audit, risk and performance management.

Ms. Abela is currently the Managing Director of WindReach Consulting Services Inc., and previously served as Interim Risk Officer at the Bank of Canada and Chairperson of the Board for the Institute of Internal Auditors Canada (IIA Canada).

Ms. Abela has a Masters degree in Public Administration from Carleton University.
Ms. Abela is a Certified Internal Auditor and holds a Chartered Director's designation from the Director's College.

Committees: Human Resources and Governance; Audit

Mr. Philip Jennings

Philip Jennings was appointed to AECL's Board of Directors in June 2017.

Mr. Jennings is currently the Associate Deputy Minister at Natural Resources Canada. Prior to taking on this role, Mr. Jennings served as Assistant Deputy Minister, Industry Sector at Innovation, Science and Economic Development Canada, and in a variety of senior management roles at Natural Resources Canada, including as Assistant Deputy Minister, Major Projects Management Office; Assistant Deputy Minister, Atomic Energy of Canada Limited Restructuring; Director General, Petroleum Resources Branch; and Director, Frontier Lands Management. He also held other senior positions at the Privy Council Office, Human Resources Development Canada, as well as the Social Sciences and Humanities Research Council.

Mr. Jennings holds a Bachelor of Social Sciences with Honours in Economics from the University of Ottawa and a Masters of Economics from Queen's University.

Committees: none

Mr. Richard Sexton

Richard Sexton is the President and Chief Executive Officer of AECL; he was appointed in February 2017 and reappointed in February 2018.

Mr. Sexton has over 32 years of experience in decommissioning and waste management gained through leadership roles on some of the largest and most complex decommissioning projects in the world, including Magnox and Sellafield in the United Kingdom, and Rocky Flats and the Connecticut Yankee site in the United States. Most recently, Mr. Sexton served as the Chief Operating Officer for the Magnox Reactor Accelerated Sites, where he was responsible for directing transformational change in decommissioning project strategy, delivery approach, cost, and schedule. Mr. Sexton also has extensive experience in managing multiple stakeholder relationships.

As President and CEO of AECL, Mr. Sexton is leading the organization in its oversight role, seeing that the priorities of Government are delivered safely and efficiently under the GoCo model.

Mr. Sexton holds an M.S. in Radiological Health Engineering from Northwestern University, a B.S. in Chemistry and American Board of Health Physics Certification, Part I. He has published and presented multiple papers on decommissioning and holds two patents for radiation detection equipment.

Committees: none

Director Attendance at Board & Committee Meetings (2017-18)

Director	Audit (6 meetings)	Human Resources & Governance (3 meetings)	Board of Directors (10 meetings)
Claude Lajeunesse	6/6	3/3	10/10
Martha Tory [1]	6/6	3/3	10/10
James Burpee [2, 3, 4, 5]	5/5	2/2	8/8
Carmen Abela [2, 3, 4]	5/5	2/2	8/8
Philip Jennings [2]	4/5	2/2	7/8
Richard Sexton [6]	6/6	3/3	10/10
Jim Hall [7]	1/1	1/1	2/2
Bob Hamilton [7]	1/1	1/1	2/2

[1] Appointed Chair of the Audit Committee in July 2017.
[2] Appointed to the Board of Directors in June 2017.
[3] Appointed to the Human Resources and Governance Committee in August 2017.
[4] Appointed to the Audit Committee in August 2017.
[5] Appointed Chair of the Human Resources and Governance Committee in September 2017.
[6] Appointed as President and CEO in February 2017 and reappointed in February 2018.
[7] Ceased to be on the Board of Directors in June 2017.

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