



**ATOMIC ENERGY OF CANADA LIMITED**

# **Second Quarter Financial Report**

**Consolidated Financial Statements (Unaudited)**

**As at and for the three and six months ended  
September 30, 2018 and September 30, 2017**

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# MESSAGE FROM THE PRESIDENT AND CHIEF EXECUTIVE OFFICER



Three years ago, our journey under the Government-owned, Contractor-operated model began. Expectations were high, the challenges real, and the transformation required to make this a success quite significant. While we continue to face challenges, overall we have significant evidence that the Government-owned, Contractor-operated model is delivering results and bringing value for money for Canada.

As part of its work to manage and operate our sites, CNL prepared (and we have accepted), an integrated 10-year plan which provides a path towards a renewed and revitalized science future, while tackling our environmental responsibilities. Activities to put this into action are now well underway: the Chalk River site footprint is evolving with over 50 buildings demolished to date; sites are being remediated as part of the Port Hope Area Initiative; three Environmental Assessments are underway to manage our environmental liabilities; and, new science and site support buildings are being built at the Chalk River site.

In nuclear science and technology, AECL manages the Federal Nuclear Science and Technology Work Plan, which delivers research activities in support of Government priorities in the areas of health, safety, security, energy, emergency preparedness and the environment. CNL is also advancing its initiative to site a demonstration small modular reactor project; during this quarter, activities continued to assess the responses received as part of the first intake process.

Changes have also been taking place behind the scenes, with CNL implementing an Earned Value Management System to drive efficiency and accountability. Furthermore, a baseline for the Chalk River site was completed, which will pave the way for a more thorough tracking of progress and performance.

In short, we have accomplished a tremendous amount of work over the last three years, but more remains. Real progress in cleaning up contaminated lands can only take place if we have a safe and appropriate place to dispose of the radioactive waste. CNL has put forward proposals for the disposal of our waste, which are undergoing Environmental Assessments. We know that members of the public have questions on some of the projects being proposed, and we continue to pay careful attention to engaging with, and listening to local stakeholders and Indigenous groups. We have a responsibility to protect the environment, and we believe that we share this goal with all concerned.

A handwritten signature in black ink that reads "Richard J. Sexton". The signature is written in a cursive, flowing style.

**Richard J. Sexton**  
*President and Chief Executive Officer*

# MANAGEMENT'S NARRATIVE DISCUSSION

## Introduction

Management's Narrative Discussion is intended to provide the reader with a greater understanding of AECL's business, its business strategy and performance, its expectations for the future, and how it manages risk and capital resources. It is also intended to enhance the understanding of the unaudited consolidated financial statements for the second quarter of 2018-19 and accompanying notes. Management's Narrative Discussion should therefore be read in conjunction with these documents.

Unless otherwise indicated, all financial information presented in Management's Narrative Discussion, including tabular amounts, is in Canadian dollars and is prepared in accordance with Canadian Public Sector Accounting Standards (PSAS).

Management's Narrative Discussion was authorized for issuance by the Board of Directors on November 20, 2018.

## Our Business

AECL is a federal Crown corporation with the mandate 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 a long-term, contractual arrangement with Canadian Nuclear Laboratories (CNL) for the management and operation of its sites under a Government-owned, Contractor-operated model. Under this model, AECL retains ownership of the sites, facilities, intellectual property and liabilities. CNL, a private-sector organization, manages AECL's sites and facilities on a day-to-day basis under a contract with AECL.

The Government-owned, Contractor-operated model allows AECL to leverage the expertise and experience of the private sector to accelerate the decommissioning and radioactive waste management program and build a world-class nuclear laboratory at Chalk River that fulfills Government requirements, while reducing costs and risks to Canada.

As an agent of the Government, AECL brings value to Canada by overseeing the Government-owned, Contractor-operated arrangement and supporting the Government's development of nuclear policy.

AECL plays a challenge function with a view to advancing its priorities in a way that is safe, secure, environmentally responsible and efficient.

There are two main areas of focus:

1. Decommissioning and Waste Management

The objective is to safely and responsibly address the environmental responsibilities and liabilities that have been created as a result of decades of nuclear science and technology activities at AECL sites. This requires the decontamination and decommissioning of redundant structures and buildings, the remediation of contaminated lands and the management and disposal of radioactive waste at AECL sites, primarily at the Chalk River Laboratories and the Whiteshell Laboratories in Manitoba. AECL is also responsible for the remediation and long-term management of sites contaminated with historic, low-level radioactive waste where the Government of Canada has accepted responsibility, most notably as part of the Port Hope Area Initiative. Responsible decommissioning and radioactive waste management is necessary in order to clean up AECL's sites, protect the environment, and make way for new buildings that will support the ongoing nuclear science and technology mission at the Chalk River site.

2. Nuclear Laboratories

The Chalk River Laboratories are Canada's largest science and technology complex and host to more than 2,800 employees including a large number of engineers, scientists and technical staff. The work undertaken at the laboratories supports Canada's federal roles, responsibilities and priorities in the areas of health, energy, the environment, safety and security. The laboratories also provide 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, through the Government's investment of \$1.2 billion over ten years, beginning in 2016.

**Sites under the responsibility of AECL across Canada**



On behalf of AECL, CNL manages and operates several sites across Canada including the Chalk River Laboratories

## Second Quarter Highlights for 2018-19

### Decommissioning and Waste Management

AECL is responsible for safely addressing environmental responsibilities and liabilities which are the result of more than 60 years of nuclear science and technology activities at its sites. For example, the production of medical isotopes for the detection and treatment of cancer has created radioactive waste. This waste is currently temporarily stored at the Chalk River Laboratories site, in Ontario.

In some cases, temporary waste storage dating back to the 1940s, 50s and 60s has led to the contamination of the surrounding soil. While this contamination is contained at the Chalk River site, it needs to be remediated in order to protect the environment.

Nuclear science and technology activities at various AECL sites across Canada have also led to buildings becoming contaminated. Some of them are now well beyond their useful life and need to be decontaminated and demolished in order to ensure safety. At the Chalk River site, building decontamination and demolition will also pave the way for new science buildings that are being planned as part of the site's overall revitalization.

AECL is also responsible for the remediation and safe, long-term management of historic, low-level radioactive waste at sites in Canada for which the Government of Canada has accepted responsibility. This includes activities related to the Low-level Radioactive Waste Management Office and the delivery of the Port Hope Area Initiative. In both cases, remediation is required in order to address liabilities associated with past radioactive waste management practices which are no longer considered acceptable, and for which the current owner does not exist and/or cannot reasonably be held responsible.

Activities necessary to address these liabilities include cleaning-up existing radioactive waste areas, safely decontaminating, demolishing and disposing of buildings and facilities, and remediating contaminated lands. AECL has contracted CNL to carry out these activities on its behalf using international best practices. This is done at several sites across Canada.

The resulting contaminated materials, demolition debris, and waste from contaminated lands will need to be disposed of in a purpose-built, engineered facility. That is why CNL has proposed to build a Near Surface Disposal Facility at the Chalk River site to responsibly and safely dispose of AECL's low-level radioactive waste. Near surface disposal is an internationally-accepted and proven method of permanently disposing of low-level radioactive waste. The radioactive waste intended for the disposal facility is either currently stored on site, will be created as a result of land remediation and decommissioning activities at the Chalk River site and other smaller AECL sites across Canada, or will be produced as nuclear science and technology activities continue to be performed at the Chalk River site in the coming decades. It is also expected that a small percentage of radioactive waste to be disposed in the facility will come from hospitals and universities (as a result, for example, of nuclear medicine activities).

Notable accomplishments in the area of decommissioning and waste management for the second quarter of 2018-19 are presented below.

During the second quarter of 2018-19, CNL continued its engagement activities with stakeholders, including site tours and information sessions, as well as outreach to, and meetings with, Indigenous groups on the proposed Near Surface Disposal Facility at the **Chalk River site**, in order to provide information and obtain input. CNL has also been reviewing, reflecting on, and responding to the questions that it received on its proposal as part of the Environmental Assessment process. CNL is taking the time to review all questions received from the public, Indigenous groups, the Canadian Nuclear Safety Commission and other regulators, and is preparing responses in order to address them

and, as appropriate, adjust its approach. CNL also continued the technical analysis of the facility, including additional seismic hazards analysis, in response to requests by the regulator.

Also at the Chalk River Laboratories, transfers of stored fuel to the new Fuel Packaging & Storage Facility were completed ahead of schedule. This facility is used to safely store used fuel; transferring it from its existing below-ground storage, which has degraded over the years, to a new, state-of-the-art storage facility. This will allow for the continued, safe management of used fuel, while a permanent disposal solution is being developed by the Nuclear Waste Management Organization.

Another key project currently underway concerns the repatriation of highly-enriched uranium to the United States. The material was used at the Chalk River Laboratories, most notably in the production of the medical isotope molybdenum-99. This material requires high levels of security, as well as costly and complicated storage. As part of the Global Threat Reduction Initiative (an initiative which aims at reducing proliferation risks by consolidating highly-enriched uranium inventories in fewer locations around the world), AECL is working with the United States Department of Energy and CNL to return (repatriate) this material to the United States for conversion and reuse. This initiative provides for a safe, secure, timely and permanent solution to Canada's long-term management of this material. Shipments of fuel rods containing highly-enriched uranium, as well as shipments of target-residue material, to the Savannah River site in the United States continued to be safely completed during the second quarter of 2018-19 as planned.

In Manitoba, work continued to decommission the **Whiteshell site**, which was previously an active nuclear research laboratory. Work includes the decontamination and demolition of structures and planning for the in situ decommissioning (i.e. immobilizing and leaving in place) of the WR-1 research reactor. The proposal to decommission the research reactor in situ provides a safe, environmentally sound, and more cost effective approach to address AECL's liability, when compared with the removal and disposal of contaminated reactor components. The proposal, led by CNL, is currently undergoing an Environmental Assessment. During the second quarter of 2018-19, CNL worked to address the comments and questions it received from the public, Indigenous groups, the Canadian Nuclear Safety Commission and other regulators as part of the Environmental Assessment process. It also continued to engage with stakeholders, the public and Indigenous groups on its proposal through site tours and meetings.

Similarly, CNL continued to advance its proposal for the in situ decommissioning of the **Nuclear Power Demonstration reactor**. During the second quarter of 2018-19, CNL prepared responses to the comments and questions it received as part of the Environmental Assessment process. It also continued to engage with stakeholders, the public and Indigenous groups on its proposal through site tours and meetings.

Finally, as part of the **Port Hope Area Initiative**, where historic low-level radioactive waste in the municipalities of Port Hope and Clarington is being remediated, CNL continued with property investigations, construction and waste emplacement. The Port Hope Area Initiative is delivering on Canada's long-term commitment to clean up low-level radioactive waste in the community, remediate historically contaminated lands and safely manage radioactive waste.

An important milestone was reached in the second quarter of 2018-19 when remediation began at the first residential property in Port Hope, paving the way for the remediation of several hundred other properties in the town. Similarly, a significant milestone was also achieved when the waste from the centre pier was removed and placed in the long-term waste management facility.

## **Nuclear Laboratories**

AECL's objective is to leverage the vast experience and expertise at the Chalk River Laboratories to contribute to the Government's science, innovation and clean energy objectives. 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 and priorities in the areas of health, nuclear safety and security, energy and the environment. To further leverage the science expertise and capabilities at Chalk River, CNL provides research and development products and services for third parties on a commercial basis.

CNL has developed a long-term vision for the Chalk River Laboratories in order to transform the site into a world-class, state-of-the-art nuclear science and technology campus. CNL's plans, approved by AECL, entail the revitalization of the site through the demolition of old and outdated buildings and the construction of new facilities that will enable a vibrant science and technology mission going forward. In addition to the opening of its National Innovation Centre for Cybersecurity in Fredericton, NB in the first quarter to enhance Canada's national cyber security capabilities, another key new facility being proposed is the Advanced Nuclear Material Research Centre, which will consolidate research activities into a modern facility that enables CNL to grow its stature nationally and internationally. Planning activities for this facility continued during the second quarter of 2018-19, including the selection by CNL of the designer and constructor for the project.

AECL continues to oversee the Federal Nuclear Science and Technology Work Plan, which is delivered by CNL. As part of this work plan, thirteen federal departments and agencies are working with AECL and CNL to identify priorities and areas of work in nuclear science and technology in order to support federal priorities and mandates in the areas of health, energy, safety and security, and the environment. Projects from the Federal Nuclear Science and Technology Work Plan continue to attract national and international interest, leveraging research with other programs such as the Canadian Safety and Security Program, the Generation IV International Forum, the International Atomic Energy Agency and the Cooperative Action Plan between the Department of Energy of the United States of America, Natural Resources Canada and AECL on nuclear energy research and development.

As part of its efforts to attract partners in order to facilitate the development and deployment of Small Modular Reactors (SMR), CNL launched an Invitation for Application in the spring of 2018. This initiative is an open invitation for any proponents of SMR projects to engage formally with CNL, through an evaluation process, to potentially site a demonstration SMR at an AECL site. Information garnered through this process will allow CNL to evaluate the technical and business merits of proposed designs, assess the financial viability of the projects, and review the necessary national security requirements. The objective is to understand the full implications of potential partnerships in order to assess whether there are benefits for CNL and for Canada more broadly. During the second quarter of 2018-19, CNL continued its work to analyze the responses received as part of the first intake of applications.



With the shutdown of the National Research Universal (NRU) reactor, Canada's largest nuclear research reactor located at the Chalk River Laboratories, at the end of March 2018, activities have been underway during the second quarter of 2018-19 to transition the reactor towards a safe shutdown state. This included the defueling and dewatering of the reactor, including the decontamination of the heavy water system through the use of an innovative technique developed during the shutdown period.

Improvements to the Chalk River site infrastructure continued. This included: advancing work for the non-nuclear facilities – a Business Hub, which will consolidate key support functions such as information technology and digital technical information storage, in a modern, sustainable facility to foster research and business partnerships; a Logistics and Warehouse Building, which will facilitate shipping and receiving at the outer gate area; and, a Maintenance Building, which will consolidate maintenance resources, work management resources and equipment into a single, centralized location. During the second quarter of 2018-19, CNL and the projects' contractor team made significant progress towards finalizing the scope and design features of the projects.

## Forward-Looking Statements

This Management's Narrative Discussion 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 six months ended September 30, 2018, and should be read in conjunction with the unaudited consolidated financial statements and accompanying notes.

The Management's Narrative Discussion contains forward-looking statements with respect to AECL based on assumptions that Management considers reasonable at the time of preparation. 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.

## Financial Review

(\$ millions)	Three Months Ended September 30,		Six Months Ended September 30,	
	2018	2017	2018	2017
<b>Revenues</b>				
Parliamentary appropriations	\$ 227	\$ 133	\$ 354	\$ 303
Commercial revenue	27	20	59	37
Interest income	1	1	2	2
	<b>255</b>	<b>154</b>	<b>415</b>	<b>342</b>
<b>Expenses</b>				
Cost of sales	19	19	40	31
Operating expenses	16	18	32	34
Contractual expenses	72	83	136	163
Decommissioning, waste management and contaminated sites expenses	68	69	136	138
	\$ 175	\$ 189	344	366
<b>Surplus (deficit) for the period</b>	\$ 80	\$ (35)	\$ 71	\$ (24)

### Parliamentary Appropriations

The Government of Canada provides funding quarterly for AECL to advance its priorities and deliver on its mandate. AECL recognized \$227 million of Parliamentary appropriations in the second quarter of 2018-19, compared to \$133 million for the same period in 2017-18. On a year-to-date basis, AECL recognized \$354 million of Parliamentary appropriations, compared to \$303 million for the same

period in 2017-18. The second quarter variance is a result of funding carried over from Q1 of 2017-18, resulting in less funding required in Q2 of 2017-18. The year-to-date variance is primarily related to AECL funding an increased level of work in decommissioning and waste management in 2018-19.

### **Commercial Revenue**

In the second quarter of 2018-19, \$27 million in revenue was recognized, compared to \$20 million for the same period in 2017-18. On a year-to-date basis, revenues were \$59 million, compared to \$37 million in 2017-18. Revenue included isotope sales, commercial technology sales, and research and development activities performed by CNL for commercial customers. The reported increase in the second quarter and year-to-date can be attributed to increased isotope sales of Cobalt, as well as increased research and development activities.

### **Interest Income**

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

### **Cost of Sales**

Cost of sales are consistent with the reported revenues for the periods, but with an increase in margin as a result of increased higher margin isotope sales of Cobalt and certain research and development activities.

### **Operating Expenses**

Operating expenses include AECL's oversight expenses, Wrap-Up Office activities and amortization of tangible capital assets. Operating expenses in the second quarter of \$16 million and year-to-date of \$32 million are comparable to that of the same periods in 2017-18.

### **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 the second quarter total \$72 million, compared to \$83 million in the second quarter of 2017-18. Year-to-date expenses in this category, which exclude those related to decommissioning and waste management and capital expenditures, total \$136 million compared to \$163 million in the previous period in 2017-18. The second quarter and year-to-date variances are largely the result of decreased spending on the NRU reactor consistent with the shutdown of the reactor in March 2018.

### **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. Decommissioning,

waste management and contaminated sites expenses in the second quarter of 2018-19 of \$68 million and year-to-date of \$136 million are comparable to that of the same periods in 2017-18.

### Surplus (Deficit) for the Period

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

### Outlook

AECL's planned activities are set out in its Corporate Plan. The 2018-19 year-to-date results are generally comparable to the planned results. As such, AECL is on track to meet its commitments within budget. Priorities and deliverables have not materially changed in the first six months of 2018-19.

## Consolidated Cash Flow and Working Capital

(\$ millions)	Three Months Ended		Six Months Ended	
	September 30,		September 30,	
	2018	2017	2018	2017
Cash provided by operating transactions	\$ 14	\$ 126	\$ 283	\$ 237
Cash applied to capital transactions	(21)	(31)	(40)	(58)
(Decrease) increase in cash	(7)	95	243	179
Balance at beginning of the period	288	121	38	37
<b>Balance at end of the period</b>	<b>\$ 281</b>	<b>\$ 216</b>	<b>\$ 281</b>	<b>\$ 216</b>

### Operating Transactions

Operating transactions generated a net cash inflow of \$14 million in the second quarter of 2018-19, compared to \$126 million during the same period in 2017-18. On a year-to-date basis, operating activities resulted in a net cash inflow of \$283 million compared to \$237 million during the same period the previous year. The variance in the quarter is the result of receiving Parliamentary appropriations for the second and third quarters in 2017-18 compared to 2018-19 where Parliamentary appropriations were received only for the third quarter.

## Capital Transactions

Capital transactions used cash of \$21 million in the second quarter of 2018-19 compared to \$31 million in the same period in 2017-18. On a year-to-date basis, capital activities used cash of \$40 million compared to \$58 million used in the same period in the previous year. The decrease is primarily due to less spending than in the previous year as a result of delays on new non-nuclear facilities.

## Highlights of the Consolidated Statement of Financial Position

<i>(\$ millions)</i>	<b>September 30, 2018</b>	March 31, 2018	Variance In \$	Variance By %
Financial Assets	\$ 582	\$ 451	\$ 131	29%
Liabilities	8,041	7,967	74	1%
Non-Financial Assets	653	646	7	1%
Accumulated Deficit	(6,806)	(6,869)	63	-1%

AECL closed the second quarter of 2018-19 with Financial Assets of \$582 million, which represents a \$131 million increase from March 31, 2018. This variance is mainly the result of increased cash received from Parliamentary appropriations as the appropriations for the third quarter of 2018-19 were received just prior to the end of the current quarter and treated as Deferred funding.

The increase in Liabilities of \$74 million can be attributed primarily to the increase in Deferred funding as described above, partly offset by a decrease in the Decommissioning and waste management provision and Contaminated sites liability as a result of spending on decommissioning activities.

## Management of Risks and Uncertainties

Risks and uncertainties are described in AECL's 2017-18 Annual Report under the section "Management's Discussion and Analysis." Risks and uncertainties and risk management practices as noted in the 2017-18 Annual Report have not materially changed in the first six months of 2018-19.

## MANAGEMENT'S RESPONSIBILITY

Management is responsible for the preparation and fair presentation of these consolidated quarterly financial statements in accordance with the Treasury Board of Canada "Standard on Quarterly Financial Reports for Crown Corporations," and for such internal controls as Management determines is necessary to enable the preparation of consolidated quarterly financial statements that are free from material misstatement. Management is also responsible for ensuring all other information in this quarterly financial report is consistent, where appropriate, with the consolidated quarterly financial statements.

Based on our knowledge, these unaudited consolidated quarterly financial statements present fairly, in all material respects, the financial position, results of operations and cash flows of the Corporation, as at the date of and for the periods presented in the consolidated quarterly financial statements.



**Richard J. Sexton**

*President and Chief Executive Officer*

November 20, 2018

Chalk River, Canada



**David J. Smith**

*Chief Financial Officer*

November 20, 2018

Chalk River, Canada

# UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS

## Consolidated Statement of Financial Position (Unaudited)

As at

<i>(thousands of Canadian dollars)</i>	Notes	September 30, 2018	March 31, 2018
<b>Financial Assets</b>			
Cash		\$ 280,823	\$ 37,580
Long-term disposal of waste fund		29,792	25,992
Investments held in trust		50,587	50,658
Trade and other receivables	3	36,136	40,606
Appropriations receivable	9	-	103,825
Inventories held for resale		3,499	3,936
Heavy water inventory		181,340	188,643
		<b>582,177</b>	<b>451,240</b>
<b>Liabilities</b>			
Accounts payable and accrued liabilities	4	81,249	77,196
Employee future benefits	5	21,922	23,200
Due to Canadian Nuclear Laboratories		104,435	117,042
Deferred funding	9	193,743	-
Deferred decommissioning and waste management funding		293,624	287,694
Decommissioning and waste management provision	6	6,430,022	6,473,301
Contaminated sites liability	7	916,182	988,243
		<b>8,041,177</b>	<b>7,966,676</b>
<b>Net Debt</b>		<b>(7,459,000)</b>	<b>(7,515,436)</b>
<b>Non-Financial Assets</b>			
Tangible capital assets	8	650,961	644,353
Prepaid expenses		1,615	1,985
		<b>652,576</b>	<b>646,338</b>
<b>Accumulated Deficit</b>		<b>(6,806,424)</b>	<b>(6,869,098)</b>
Accumulated deficit is comprised of:			
Accumulated operating deficit		(6,805,717)	(6,868,978)
Accumulated remeasurement losses		(707)	(120)
		<b>\$ (6,806,424)</b>	<b>\$ (6,869,098)</b>

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

## Consolidated Statement of Operations and Accumulated Deficit (Unaudited)

<i>(thousands of Canadian dollars)</i>	Notes	2019	Three Months Ended		Six Months Ended	
		Budget	September 30, 2018	September 30, 2017	September 30, 2018	September 30, 2017
<b>Revenues</b>						
Parliamentary appropriations	9	\$ 1,043,473	\$ 227,400	\$ 133,300	\$ 353,914	\$ 302,870
Commercial revenue		84,600	26,983	20,064	58,628	36,907
Interest income		3,000	1,141	891	2,241	1,941
		1,131,073	255,524	154,255	414,783	341,718
<b>Expenses</b>						
Cost of sales		54,990	18,849	19,419	39,688	31,375
Operating expenses		69,139	15,988	18,303	32,360	34,100
Contractual expenses	10	320,880	71,855	82,584	135,525	163,473
Decommissioning, waste management and contaminated sites expenses		268,950	68,127	68,866	136,254	137,731
		713,959	174,819	189,172	343,827	366,679
<b>Surplus (deficit) for the period</b>		417,114	80,705	(34,917)	70,956	(24,961)
<b>Accumulated operating deficit, beginning of period</b>		(6,868,978)	(6,885,180)	(6,980,810)	(6,868,978)	(6,983,092)
Transfer to deferred decommissioning and waste management funding		(6,000)	-	(6,320)	(5,930)	(12,251)
Transfer to repayable contributions		(5,000)	(1,242)	(272)	(1,765)	(2,015)
<b>Accumulated operating deficit, end of period</b>		\$ (6,462,864)	\$ (6,805,717)	\$ (7,022,319)	\$ (6,805,717)	\$ (7,022,319)

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



## Consolidated Statement of Remeasurement Gains and Losses (Unaudited)

<i>(thousands of Canadian dollars)</i>	Three Months Ended		Six Months Ended	
	September 30,		September 30,	
	2018	2017	2018	2017
<b>Accumulated remeasurement (losses) gains, beginning of period</b>	\$ (364)	\$ 803	\$ (120)	\$ 878
<b>Remeasurement losses arising during the period</b>				
Unrealized losses on Investments held in trust	(343)	(1,054)	(587)	(1,117)
<b>Reclassifications to the Consolidated Statement of Operations and Accumulated Deficit</b>				
Realized gains on Investments held in trust	-	45	-	33
<b>Net remeasurement losses for the period</b>	<b>(343)</b>	<b>(1,009)</b>	<b>(587)</b>	<b>(1,084)</b>
<b>Accumulated remeasurement losses, end of period</b>	<b>\$ (707)</b>	<b>\$ (206)</b>	<b>\$ (707)</b>	<b>\$ (206)</b>

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

## Consolidated Statement of Change in Net Debt (Unaudited)

<i>(thousands of Canadian dollars)</i>	Notes	2019	Three Months Ended		Six Months Ended	
		Budget	2018	September 30, 2017	2018	September 30, 2017
<b>Surplus (deficit) for the period</b>		\$ 417,114	\$ 80,705	\$ (34,917)	\$ 70,956	\$ (24,961)
<b>Tangible capital assets</b>						
Acquisition of tangible capital assets	8	(146,722)	(15,129)	(32,403)	(27,513)	(55,321)
Amortization of tangible capital assets	8	46,823	10,365	9,865	20,843	19,103
Other changes	8	-	(797)	229	62	222
		(99,899)	(5,561)	(22,309)	(6,608)	(35,996)
<b>Non-financial assets</b>						
Changes in prepaid expenses		-	242	(68)	370	(475)
Net remeasurement losses for the period		-	(343)	(1,009)	(587)	(1,084)
<b>Increase (decrease) in net debt</b>		317,215	75,043	(58,303)	64,131	(62,516)
<b>Net debt at beginning of period</b>		(7,515,436)	(7,532,801)	(7,589,617)	(7,515,436)	(7,577,730)
Transfer to deferred decommissioning and waste management funding		(6,000)	-	(6,320)	(5,930)	(12,251)
Transfer to repayable contributions		(5,000)	(1,242)	(272)	(1,765)	(2,015)
<b>Net debt at end of period</b>		\$ (7,209,221)	\$ (7,459,000)	\$ (7,654,512)	\$ (7,459,000)	\$ (7,654,512)

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

## Consolidated Statement of Cash Flows (Unaudited)

<i>(thousands of Canadian dollars)</i>	Three Months Ended		Six Months Ended	
	September 30,		September 30,	
	2018	2017	2018	2017
<b>Operating transactions</b>				
Cash receipts from Parliamentary appropriations	\$ 193,743	\$ 320,400	\$ 651,482	\$ 584,400
Cash receipts from customers	30,771	6,167	62,719	36,317
Cash paid to suppliers	(76,986)	(103,232)	(173,230)	(193,031)
Cash paid to employees	(3,542)	(3,841)	(7,940)	(9,405)
Cash paid for decommissioning, waste management and contaminated sites activities	(131,092)	(93,649)	(251,594)	(182,007)
Interest received	984	451	1,674	676
<b>Cash provided by operating transactions</b>	<b>13,878</b>	<b>126,296</b>	<b>283,111</b>	<b>236,950</b>
<b>Capital transactions</b>				
Acquisition of tangible capital assets	(21,097)	(31,617)	(39,868)	(57,941)
<b>Cash applied to capital transactions</b>	<b>(21,097)</b>	<b>(31,617)</b>	<b>(39,868)</b>	<b>(57,941)</b>
<b>(Decrease) increase in cash</b>	<b>(7,219)</b>	<b>94,679</b>	<b>243,243</b>	<b>179,009</b>
<b>Cash at beginning of period</b>	<b>288,042</b>	<b>121,354</b>	<b>37,580</b>	<b>37,024</b>
<b>Cash at end of period</b>	<b>\$ 280,823</b>	<b>\$ 216,033</b>	<b>\$ 280,823</b>	<b>\$ 216,033</b>

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

# NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

## For the three and six months ended September 30, 2018

(Expressed in thousands of Canadian dollars)

(Unaudited)

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### 1. The Corporation

Atomic Energy of Canada Limited (AECL) is a federal Crown corporation whose mandate is to enable nuclear science and technology and manage the Government of 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*.

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 quarterly 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.

These consolidated quarterly financial statements should be read in conjunction with the annual audited consolidated financial statements dated March 31, 2018.

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 quarterly 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 quarterly 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 2018-19 budget is reflected in the Consolidated Statement of Operations and Accumulated Deficit and the Consolidated Statement of Change in Net Debt. Budget data presented in these consolidated financial statements is based upon the 2018-19 projections and estimates contained within the 2018-19 to 2022-23 Corporate Plan.

### **b) Basis of Consolidation**

Subsidiaries are entities controlled by AECL. The financial statements of subsidiaries are included in the consolidated quarterly financial statements from the date that control commences until the date that control ceases. The accounting policies of subsidiaries have been changed when necessary to align them with the policies of AECL. These consolidated quarterly financial statements include the accounts of AECL's wholly-owned subsidiary, AECL Technologies B.V., incorporated in the Netherlands in 1995 (for the period up to June 23, 2017, when the corporation was dissolved).

### 3. Trade and Other Receivables

<i>(thousands of Canadian dollars)</i>	<b>September 30, 2018</b>	March 31, 2018
Trade receivables	\$ 21,884	\$ 16,576
Less: allowance for doubtful accounts	<b>(3,419)</b>	(3,419)
Net trade receivables	<b>18,465</b>	13,157
Other receivables:		
Unbilled revenue	<b>9,142</b>	10,594
Consumption taxes receivable	<b>8,529</b>	9,460
Contract receivables from customers in respect of the financing of products and services, maturing through 2018-19 at fixed repayment amounts	-	7,095
Other receivables	-	300
	<b>\$ 36,136</b>	<b>\$ 40,606</b>

### 4. Accounts Payable and Accrued Liabilities

<i>(thousands of Canadian dollars)</i>	<b>September 30, 2018</b>	March 31, 2018
Trade payables	\$ 8,904	\$ 7,927
Other payables and accrued expenses	<b>23,710</b>	20,364
Accrued payroll liabilities	<b>1,099</b>	2,380
Amounts due to related parties	<b>40,121</b>	38,603
Provisions	<b>5,975</b>	6,053
Customer advances and obligations	<b>1,440</b>	1,869
	<b>\$ 81,249</b>	<b>\$ 77,196</b>

The Amounts due to related parties represent royalty revenues and cash proceeds from the sales of heavy water (Note 9 of the annual audited consolidated financial statements dated March 31, 2018).

Provision amounts are short-term in nature, are not discounted and include lawsuits, legal claims and disputes with suppliers.

## 5. Employee Future Benefits

### a) Pension Plan

Employees of AECL participate in the Public Service Pension Plan (PSPP). The PSPP is a contributory defined benefit plan established through legislation and sponsored by the Government of Canada. Contributions are required by both the employees and the employer to cover current service cost. The President of the Treasury Board of Canada sets the required employer contributions based on a multiple of the employees' required contribution.

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

<i>(thousands of Canadian dollars)</i>	Three Months Ended		Six Months Ended	
	September 30,		September 30,	
	2018	2017	2018	2017
Payments by employees	\$ 204	\$ 212	\$ 452	\$ 519
Payments by employer	309	548	831	2,066

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, multiplied by the average of the best five consecutive years of earnings. The benefits are coordinated with Canada/Québec Pension Plan benefits and are indexed to inflation.

### b) Other Employee Future Benefits

AECL provides certain voluntary termination compensation (VTC) and other post-employment benefits as described in Note 2(h) of the annual audited consolidated financial statements dated March 31, 2018. 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 of \$21.9 million (March 31, 2018: \$23.2 million).

The VTC included in the reported Employee future benefits liability is \$8.9 million (March 31, 2018: \$9.6 million) and is payable in instances of future voluntary resignations and retirements.

## 6. 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, and protect the environment. A portion of the liabilities relate to obligations stemming from activities undertaken prior to the creation of AECL in 1952.

<i>(thousands of Canadian dollars)</i>	<b>Six Months Ended September 30, 2018</b>	Year Ended March 31, 2018
<b>Carrying amount - Beginning of period</b>	<b>\$ 6,473,301</b>	\$ 6,492,243
Liabilities settled	<b>(172,512)</b>	(309,228)
Unwinding of discount	<b>125,566</b>	251,866
Revision in estimate and timing of expenditures	<b>3,667</b>	38,420
<b>Carrying amount - End of period</b>	<b>\$ 6,430,022</b>	\$ 6,473,301

The undiscounted future expenditures, adjusted for inflation, for the planned activities comprising the liability are \$15,760.4 million (March 31, 2018: \$15,932.9 million).

The provision was discounted using a rate of 3.88% as at September 30, 2018 and March 31, 2018.

## 7. Contaminated Sites Liability

AECL has the responsibility for the implementation of the Government of Canada's commitments with respect to the Port Hope Area Initiative and Low-level Radioactive Waste Management Office.

<i>(thousands of Canadian dollars)</i>	<b>Six Months Ended September 30, 2018</b>	Year Ended March 31, 2018
<b>Carrying amount - Beginning of period</b>	<b>\$ 988,243</b>	\$ 1,081,866
Liabilities settled	<b>(82,750)</b>	(107,083)
Unwinding of discount	<b>10,689</b>	23,595
Revision in estimate and timing of expenditures	-	(10,135)
<b>Carrying amount - End of period</b>	<b>\$ 916,182</b>	\$ 988,243

The nature of the Port Hope Area Initiative is the clean-up and local, long-term, safe management of historic low-level radioactive waste in the municipalities of Port Hope and Clarington, in Ontario. 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 forecasted to be complete in 2023-24, with long-term monitoring and maintenance expected to continue for 30 years after implementation. The liability is discounted using net present value techniques at a rate of 2.16%. The estimated total undiscounted expenditures are \$1,024.4 million (March 31, 2018: \$1,107.2 million).

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 low levels of radioactivity resulting from the processing and shipment of uranium and radium.

## 8. Tangible Capital Assets

*(thousands of Canadian dollars)*

	Construction in progress	Land and land improvements	Buildings	Reactors, Machinery and Equipment	Total
<b>Cost at March 31, 2018</b>	\$ 190,798	\$ 85,493	\$ 435,031	\$ 488,392	\$ 1,199,714
Additions and transfers	27,513	755	28,613	25,362	82,243
Disposals and transfers	(54,848)	(10)	(614)	(14,590)	(70,062)
<b>Cost at September 30, 2018</b>	<b>163,463</b>	<b>86,238</b>	<b>463,030</b>	<b>499,164</b>	<b>1,211,895</b>
<b>Accumulated amortization at March 31, 2018</b>	-	<b>38,673</b>	<b>201,599</b>	<b>315,089</b>	<b>555,361</b>
Increase in amortization	-	1,876	5,465	13,502	20,843
Disposals	-	(431)	(574)	(14,265)	(15,270)
<b>Accumulated amortization at September 30, 2018</b>	-	<b>40,118</b>	<b>206,490</b>	<b>314,326</b>	<b>560,934</b>
<b>Net carrying amount at March 31, 2018</b>	<b>190,798</b>	<b>46,820</b>	<b>233,432</b>	<b>173,303</b>	<b>644,353</b>
<b>Net carrying amount at September 30, 2018</b>	<b>\$ 163,463</b>	<b>\$ 46,120</b>	<b>\$ 256,540</b>	<b>\$ 184,838</b>	<b>\$ 650,961</b>

## 9. Parliamentary Appropriations

	Three Months Ended		Six Months Ended	
	September 30,		September 30	
<i>(thousands of Canadian dollars)</i>	2018	2017	2018	2017
<b>Parliamentary appropriations for operating and capital expenditures</b>				
Amount received during the period for operating and capital expenditures	\$ 193,743	\$ 320,400	\$ 651,482	\$ 584,400
Amount receivable from a previous period	-	-	(103,825)	(94,430)
Amount deferred from the previous period	227,400	-	-	-
Amount received related to the next period (Deferred funding)	(193,743)	(187,100)	(193,743)	(187,100)
<b>Total Parliamentary appropriations recognized</b>	<b>\$ 227,400</b>	<b>\$ 133,300</b>	<b>\$ 353,914</b>	<b>\$ 302,870</b>

The difference between received and recognized Parliamentary appropriations relates to amounts received but related to either a previous or subsequent quarter. The appropriations approved for operating and capital expenditures for the year ending March 31, 2019 total \$1,044 million.

## 10. Contractual Arrangement

Since 2015, AECL has been delivering its mandate through a Government-owned, Contractor-operated model whereby the assets, sites and facilities continue to be owned by AECL, but are being contractually managed and operated by a private-sector company. As such, AECL makes payments to CNL and its parent company, Canadian National Energy Alliance (CNEA), as per the terms of the contractual arrangement.

The following contractual expenses were incurred:

	Three Months Ended		Six Months Ended	
	September 30,		September 30,	
<i>(thousands of Canadian dollars)</i>	2018	2017	2018	2017
<b>Contractual amounts paid or payable</b>	\$ 234,172	\$ 225,818	\$ 448,064	\$ 430,291
Less: Costs charged to Decommissioning and waste management provision and Contaminated sites liability	(132,453)	(95,188)	(254,036)	(186,121)
Less: Costs charged to Construction in progress	(15,129)	(32,404)	(27,513)	(55,322)
Less: Costs classified as Cost of sales	(14,735)	(15,642)	(30,990)	(25,375)
<b>Contractual expenses</b>	\$ 71,855	\$ 82,584	\$ 135,525	\$ 163,473

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

## 11. Comparative Figures

Certain of the September 30, 2017 comparative figures have been reclassified to conform to the financial statement presentation adopted in the 2018-19 fiscal year.



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