



**ATOMIC ENERGY OF CANADA LIMITED**

# **Second Quarter Financial Report**

**Financial Statements (Unaudited)**

**As at and for the three and six months ended  
September 30, 2022**

# Table of Contents

<b>MESSAGE FROM THE PRESIDENT AND CHIEF EXECUTIVE OFFICER</b> .....	<b>3</b>
<b>MANAGEMENT’S NARRATIVE DISCUSSION</b> .....	<b>5</b>
<i>Introduction</i> .....	5
<i>Our Business</i> .....	5
<i>Second Quarter Highlights for 2022-23</i> .....	6
FORWARD-LOOKING STATEMENTS .....	10
MANAGEMENT OF RISKS AND UNCERTAINTIES .....	10
FINANCIAL REVIEW .....	12
CASH FLOW AND WORKING CAPITAL.....	14
HIGHLIGHTS OF THE STATEMENT OF FINANCIAL POSITION.....	15
USE OF PARLIAMENTARY APPROPRIATIONS.....	15
<b>MANAGEMENT’S RESPONSIBILITY</b> .....	<b>16</b>
<b>UNAUDITED FINANCIAL STATEMENTS</b> .....	<b>17</b>

## MESSAGE FROM THE PRESIDENT AND CHIEF EXECUTIVE OFFICER



During our second quarter, it became increasingly clear to Atomic Energy of Canada Limited (AECL) that energy security is rapidly becoming the defining aspect of Canada’s transition to clean-energy sources. Russia’s unjustified and unprovoked attack on Ukraine has called into question the wisdom of relying on transnational energy supplies. It has brought into sharper focus the need to replace energy from fossil fuels with emissions-free electrical generation that mitigates climate change.

Energy security has been a feature of Canadian nuclear technology since the earliest days of nuclear power plants. Canada has a significant advantage in that the AECL-designed CANDU reactors use fuel derived from natural uranium – without the uranium enrichment required by most other reactor designs. The CANDU reactor has already proven its superiority in safety and reliability – and now it stands apart from other designs in that it relies on uranium readily available here at home.

It also became clear that Canada’s clean-energy future will require significantly more nuclear-generating capacity than we enjoy today. From the 13 GW of capacity built in Ontario and New Brunswick, we clearly see that electrical supply toward 2050 will need to double, if not triple, to move Canada to net-zero greenhouse gas emissions.

These developments place a premium on AECL’s work to enable a clean, secure Canadian energy supply through nuclear innovation. We will need to extend nuclear-generating capability beyond the country’s largest urban region—the Greater Toronto Area—to supply smaller communities across the country. We will need further to replace power plants in some 200 remote communities that must rely today on fossil fuels for their electrical needs.

Success will require us to demonstrate the feasibility of small modular reactors to deliver nuclear energy to where it is needed – and that is everywhere. At the same time, success will require that we continue to support the current CANDU fleet, and that we position ourselves to maintain it, and other large reactors, well into mid-century.

AECL, working closely with Canadian Nuclear Laboratories (CNL), continues to make significant progress in enabling small modular reactors, while remaining attentive to the long-term reliability of the current fleet. We must also work to develop nuclear fuel for the next generation of reactors.

As I am fond of saying to my colleagues: “Big or small, we need them all.” And AECL will continue to serve Canada in ensuring this country’s energy security.

Our work has a broader scope, of course. We continue to make significant progress in developing the next generation of cancer treatment. Through targeted alpha therapy, we will provide the medical

community with technology that targets cancer cells with laser-like precision. AECL intends to return Canada to its position of global leadership in radiation therapy.

We will continue as well with our projects to decarbonize the transportation sector, improve nuclear cybersecurity, and augment Canada's capabilities in nuclear forensics, detection and response.

As we continue our work, we have come to appreciate that our newest challenge is perhaps our most significant. For 80 years, AECL and its predecessors have carried out nuclear research and development, and applied nuclear science and technologies to solve problems – all the while paying much less attention than we should have to Indigenous communities' concerns.

CNL's licence hearings for the Near Surface Disposal Facility (NSDF), an engineered mound to contain low-level radioactive waste, demonstrated clearly that we have not done nearly enough to work in partnership with Indigenous communities.

At the NSDF licence hearings, I delivered AECL's commitment to listen to, learn from, and work together with Indigenous communities to build trust, advance reconciliation and achieve mutual benefits. Throughout the second quarter, my colleagues and I have deepened our discussions with Indigenous communities and developed initiatives to widen our circle of collaboration.

In bringing Canada forward, we must work together to improve the lives of all who live here. Let us leave no-one behind.

A handwritten signature in black ink, reading "F. Dermarkar .". The signature is fluid and cursive, with a period at the end.

**Fred Dermarkar**

*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 its management of risk and capital resources. It is also intended to enhance the understanding of the unaudited financial statements for the second quarter of 2022-23 and accompanying notes. Management's Narrative Discussion should therefore be read in conjunction with the unaudited financial statements.

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 17, 2022.

## Our Business

AECL is a federal Crown corporation that has a mandate to enable nuclear science and technology and to protect the environment by fulfilling the Government of Canada's radioactive waste management and decommissioning responsibilities. AECL receives funding from the Government of Canada and earns commercial revenues through the activities of Canadian Nuclear Laboratories (CNL) at the Chalk River Laboratories. AECL reports to Parliament through the Minister of Natural Resources.

AECL delivers its mandate through a long-term, contractual arrangement with CNL, a private-sector company, for the management and operation of its sites under a Government-owned, Contractor-operated (GoCo) model. AECL retains ownership of the sites, facilities, intellectual property, and liabilities. CNL manages AECL's sites and facilities under contract with AECL.

The GoCo model allows AECL to leverage private-sector expertise and experience to accelerate the decommissioning and environmental stewardship program, and deliver world-class nuclear science and technology. As a government agent, AECL brings value to Canada by setting CNL's priorities and providing expert-based oversight of its plans and operations. AECL assesses CNL's performance to advance its objectives in the most effective and efficient manner, while maintaining the highest priority on safety, security, and protection of the environment. Furthermore, AECL supports the government's development of nuclear policy.

The two main areas of focus for activities are:

### 1. Nuclear Laboratories

The Chalk River Laboratories are Canada's largest science and technology complex and host to more than 3,400 CNL employees, including engineers, scientists, and technical staff. The work

undertaken at the laboratories supports Canada’s federal roles, responsibilities, and priorities in health, energy and climate change, the environment, safety, and security. Services are also provided to industry and other third parties on a commercial basis. The Chalk River site is transforming into a modern, world-class nuclear science and technology campus, thanks to a 10-year, \$1.2 billion government investment that began in 2016.

## 2. Environmental Stewardship

The objective is to address safely and responsibly the environmental responsibilities and liabilities which have resulted from legacy 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 to remediate AECL’s sites to modern standards, protect the environment, and make way for new buildings to support the ongoing nuclear science and technology mission at the Chalk River site.



## Second Quarter Highlights for 2022-23

### Nuclear Laboratories

AECL has led innovation in nuclear science and technology for seven decades, supporting public policy and program delivery for the Government of Canada. This includes the design of the CANDU reactor, production of medical isotopes, and the provision of nuclear science and technology in energy, non-proliferation, emergency preparedness, counterterrorism, health, and security.

Through the GoCo model, AECL leverages the Chalk River Laboratories' vast experience and expertise to attain the government’s science, innovation, and clean-energy objectives. AECL’s activities, delivered through the Federal Nuclear Science and Technology Work Plan, enable the government to fulfill its responsibilities.

To grow the science expertise and capabilities at Chalk River, and to enable new scientific initiatives, CNL uses AECL-owned facilities to provide technical services and research and development products on a commercial basis.

CNL has developed a long-term, AECL-approved strategic plan to deliver an integrated, effective, project-based and customer-focused science and technology mission that meets government and commercial needs.

CNL will focus on eight strategic initiatives to support the government and help commercial clients to tap into new and expanded markets:

- **Long-term reliability of existing reactors:** CNL will support the CANDU fleet of reactors domestically and internationally through work on life-extension and long-term reliability, and support other reactor designs, advanced nuclear materials, fuels research and nuclear chemistry applications.
- **Advanced fuel fabrication:** CNL will develop advanced nuclear fuel concepts to support long-term reactor reliability and the development of advanced reactors. Advanced fuels offer higher performance, improved failure tolerance, increased safety, proliferation resistance and accident tolerance, and are recycled or recyclable.
- **Small modular reactors:** CNL's goal is to demonstrate the commercial viability of small modular reactors by 2030, thereby positioning Canada to take a leadership role in this emerging nuclear technology. The objective is for Canada and CNL to leverage their expertise and facilities to position small modular reactors to provide low-carbon, reliable, load-following, scalable and cost-effective energy options to smaller and remote communities, mining and oil sands applications, and to fill other energy gaps and needs that often have a unique Canadian interest.
- **Decarbonizing the transportation sector:** CNL aims to leverage AECL's recent capital investments in modern hydrogen laboratories to support hydrogen safety, and heavy water and tritium management in CANDU reactors. As hydrogen technologies have matured, costs have dropped to the point that hydrogen solutions are financially competitive with similar energy conversion technologies. Hydrogen technology offers low-carbon options for the energy and transportation sectors, which supports Canada's international commitments for carbon reduction.
- **Targeted alpha therapy research for cancer treatment:** Targeted alpha therapy is a new area of research in the battle against cancer and other diseases. This therapy focuses tightly on cancer cells with a precision that spares their healthy neighbours.
- **Nuclear cybersecurity:** Cybersecurity of industrial control systems is a growing concern in all industries. In the nuclear industry, it represents a multibillion-dollar worldwide market. A large commercial industry caters to the cybersecurity of information technology systems. However, most solution providers are focused on conventional hacking and data theft. CNL has established a nuclear cybersecurity test facility in Fredericton, New Brunswick, and is working to develop, commercialize and deploy a nuclear industrial-control cyber-intrusion detection and mitigation system.
- **Nuclear forensics, detection, and response:** The need for science and technology activities in nuclear security continues to grow in Canada, as evidenced by the government's renewed

commitments to nuclear threat reduction domestically and abroad. There is a growing demand from government departments and agencies for expertise to inform their response to emergent national and international issues concerning nuclear safeguards, safety, and security. CNL is working to establish a facility for government agencies and commercial partners to develop, test, calibrate and validate nuclear forensics technologies and materials. Furthermore, CNL is supporting work to safeguard and secure nuclear material and improve Canada's border security.

- **Science and technology for advanced environmental sustainability:** CNL works to expand the understanding of the behaviour of contaminant radionuclides, and further develop safe and economical nuclear waste management technologies. The environmental technology capability will continue to support the government in monitoring for the presence and spread of low levels of contamination. CNL is also growing its commercial work in this area.

As part of its long-term vision for the Chalk River Laboratories, 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 transform the site into a world-class, state-of-the-art nuclear science and technology campus, and enable a vibrant science and technology mission.

During the second quarter, AECL and CNL pursued activities in this respect, presented below.

CNL entered into a collaboration agreement in July with ARC Clean Energy Canada to advance the fuel development and manufacturing processes to produce fuel for ARC Canada's advanced small modular reactor technology. This development advances Canada's capability to manufacture fuel assemblies for the ARC Canada's advanced 100 MWe small modular reactor. The reactor's design uses proven concepts based on a sodium coolant and a uranium-zirconium alloy fuel to produce steam for electrical generation and industrial processes. CNL's work with ARC Canada will lead to a set of procedures for the development of a full production line to support the Canadian fleet.

In September, CNL published its new corporate strategy, defining three strategic priorities:

- Restoring and protecting the environment
- Advancing clean energy
- Contributing to the health of Canadians

CNL will implement the strategy by working with other organizations to help advance innovative Canadian products and services towards real-world use, including carbon-free energy, cancer treatments and other therapies, non-proliferation technologies and waste management solutions.

## **Environmental Stewardship**

AECL has been conducting nuclear science and technology activities for decades, delivering important benefits for Canadians such as the production of medical isotopes used to detect and treat cancer. However, they have also produced radioactive waste. Across its sites, AECL has high-level waste (used fuel), intermediate-level waste and low-level waste. (For more information on the types of radioactive waste, visit [nuclearsafety.gc.ca/eng/waste](http://nuclearsafety.gc.ca/eng/waste)). Several sites and buildings have been contaminated by nuclear science and technology activities and obsolete waste management practices. The buildings



need to be decontaminated and demolished, the sites cleaned up and remediated, and the radioactive waste managed using modern standards.

AECL's objective is to protect the environment by advancing key decommissioning, remediation, and waste management projects to address risks and hazards. With GoCo implementation, AECL received a mandate to accelerate these activities to reduce risks and costs in a safe manner that is consistent with international leading practices. AECL has asked CNL to propose projects to dispose of radioactive waste and to advance decommissioning activities to reduce its environmental liabilities and protect the environment.

Work has steadily progressed at the Chalk River Laboratories, with 112 buildings decommissioned since 2015. The contaminated materials, demolition debris, and contaminated soil require disposal in a way that protects the environment. CNL has proposed to build a Near Surface Disposal Facility (NSDF) at the Chalk River site. This purpose-built, engineered facility will enable the responsible and safe disposal of AECL's low-level radioactive waste. This includes contaminated items like gloves, protective shoe covers, clothing, rags, mops, equipment, tools, contaminated building material, debris, and soil. Using an internationally accepted and proven method of disposing of low-level radioactive waste, the NSDF would receive waste stored on site and waste created through ongoing remediation and decommissioning activities at all AECL sites. It would also accept waste to be produced by ongoing activities at the Chalk River site.

Progress in environmental stewardship for the second quarter of 2022-23 is presented below.

In Manitoba, CNL moved ahead with its work to decommission the Whiteshell site, a former nuclear research laboratory. It reached a milestone in July by submitting its revised draft Environmental Impact Statement to the CNSC. It had submitted its first draft statement in 2017 and worked since then to answer information requests from the CNSC, and to engage with First Nations and the Manitoba Métis Federation. The CNL submission triggered a 90-day CNSC review. The work includes the decontamination and demolition of structures and planning for the in situ decommissioning of WR-1.

At the Chalk River site, CNL made further progress in decommissioning four of the highest-risk buildings -- Building 250 and the Building 200 series. This work is the most complex decommissioning yet performed at the site. Through its decommissioning work, CNL is making way for the rejuvenation of the Chalk River Laboratories and enabling AECL to achieve its vision of leading Canadian nuclear innovation.

The proposed NSDF entered a phase of deepened engagement with two First Nations under a procedural review issued by the CNSC in July. The review period will extend to January 31, 2023, affording AECL and CNL time to advance dialogue with the Kebaowek First Nation and the Kitigan Zibi Anishinabeg. At the conclusion of the review, AECL and CNL will submit to the CNSC additional information to support its consideration of issues such as the duty to consult, the environmental assessment, and the Chalk River licence amendment application. Similar submissions are expected from the First Nations and CNSC staff.

The Port Hope Area Initiative continued to advance the cleanup of historic low-level radioactive waste in Port Hope, advancing toward AECL's objective of assuring safe long-term waste management contained in an engineered mound. CNL made preparations for a CNSC hearing in November to extend its licence, and continued work in parallel to adjust the agreed criteria for the cleanup of arsenic deposited by pioneering nuclear operations and industrial operations.

## 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 three and six months ended September 30, 2022, and should be read in conjunction with the unaudited 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.

## Management of Risks and Uncertainties

AECL carefully anticipates and manages risks using sound practices. AECL's risk-management approach encompasses risks both to itself and to CNL's management and operation of AECL sites and facilities. Through ongoing communication between AECL and CNL, plans and activities are monitored to mitigate risks as necessary.

This section highlights some of the risks to AECL and their potential to affect its financial results.

**COVID Pandemic:** The pandemic presents risks to the safety and security of personnel and the sites, as well as risk of financial impacts. To mitigate risks, AECL and CNL follow comprehensive recovery plans that reflect government and health authority guidance and eased restrictions nationally and abroad. AECL and CNL continue to monitor closely COVID's near- and long-term effects on revenue, cash flows, project costs, and schedules.

**Human Resources:** AECL is a small organization that relies on a small complement of highly trained and experienced personnel, several of whom bring both contractor and government experience in managing similar GoCo arrangements. AECL's goal is to maintain the necessary expertise and capabilities to oversee the GoCo contract and achieve value for money for Canada. AECL's small size presents an ongoing challenge to adapt to fluctuating resourcing requirements across the organization. and backfill those on short-term leave where appropriate. AECL uses third-party service contracts to ensure that it is staffed effectively and that its people receive cross-training when opportunities arise.

A succession plan is in place and is reviewed regularly. Furthermore, AECL regularly reviews its total compensation package to remain competitive amongst similar employers nationally and internationally.

**Contractor Performance:** As AECL relies on a private-sector contractor to execute scope related to its mandate, it faces an inherent risk that the contractor may fail to perform. To mitigate this risk, AECL carefully structured its contract with CNL to include incentives to deliver its best performance. AECL sets annual priorities and achievable stretch targets and, throughout the year, evaluates CNL's performance to highlight strengths and weaknesses, and to afford CNL the opportunity to correct where needed.

**Costs to Operate Chalk River Laboratories:** The 2018 shutdown of the National Research Universal reactor resulted in lost revenue, including isotope sales, and diminishing funding for the National Research Universal reactor. This created pressures in funding corporate support and site-operating costs. These must be borne by the remaining programs. More recently, this has been further compounded by the cost pressures created by the pandemic. CNL continues to reduce indirect costs to address the pressures, and to examine all long-term options to enable a sustainable organization that protects the environment, health, and safety.

**Major Waste Disposal Projects:** AECL's mandate includes environmental stewardship and remediation of sites for the benefit of future generations. Three important projects designed to reduce environmental risks and improve environmental protection are proceeding through environmental assessments:

- Construction of the NSDF at the Chalk River Laboratories;
- In situ decommissioning of the WR-1 research reactor at the Whiteshell site; and,
- In situ decommissioning of the Nuclear Power Demonstration facility in Rolphton, Ontario.

The regulatory environment, as well as engagement of the public and Indigenous communities, are key to the projects' success. In revising project schedules, AECL ensures that it has adequate time to consider stakeholders' comments and concerns, and to accommodate CNSC requests for additional technical studies. These schedule changes have held back CNL's large-scale cleanup and remediation activities, but they have also allowed for more public and Indigenous engagement, and for the development of additional safety studies.

**Indigenous Engagement and Consultation:** AECL faces increasing needs to support capacity development, to conduct traditional knowledge studies, and to participate in regulatory processes and environmental monitoring. CNL also continues its outreach activities across all sites. AECL is engaged with Indigenous communities in building meaningful and mutually beneficial relationships, recognizing that these take time, and that its success depends on the strength of these relationships. AECL and CNL work closely together to increase participation, collaboration and mutual benefit with Indigenous communities. AECL is reinforcing its Indigenous engagement program and oversight activities.

**Public Relations:** AECL depends on the support of key stakeholders, including government and the public. It looks for relationship-building opportunities, and innovative and effective means to reach its

audiences. Working with CNL, AECL uses clear messaging and a variety of communications tools to reach key audiences more effectively.

**Cybersecurity:** AECL takes a two-fold approach to cybersecurity risk: cybersecurity within its own organization and CNL’s cybersecurity efforts to protect AECL’s information assets. AECL and CNL work continuously to improve cybersecurity capabilities, with a focus on training and adaptation.

## Financial Review

(\$ millions)	Three Months Ended September 30		Six Months Ended September 30	
	2022	2021	2022	2021
<b>Revenues</b>				
Parliamentary appropriations	\$ 244	\$ 212	\$ 430	\$ 394
Commercial revenue	36	38	72	65
Interest income	3	1	5	2
Other proceeds	-	-	7	7
	<b>283</b>	<b>251</b>	<b>514</b>	<b>468</b>
<b>Expenses</b>				
Cost of sales	21	25	44	43
Operating expenses	18	16	34	34
Contractual expenses	86	84	148	141
Decommissioning, waste management and contaminated sites expenses	77	96	163	170
	<b>202</b>	<b>221</b>	<b>389</b>	<b>388</b>
<b>Surplus for the period</b>	<b>\$ 81</b>	<b>\$ 30</b>	<b>\$ 125</b>	<b>\$ 80</b>

### Parliamentary Appropriations

The Government of Canada provides funding quarterly for AECL to advance its priorities and deliver on its mandate. AECL recognized \$244 million of Parliamentary appropriations in the second quarter of 2022-23, compared to \$212 million in the same period in 2021-22. On a year-to-date basis, AECL recognized \$430 million in Parliamentary appropriations, compared to \$394 million for the same period in 2021-22. The quarterly and year-to-date variance is due largely to an increase in funding required to execute decommissioning, remediation, and waste management activities, as planned.

### Commercial Revenue

In the second quarter of 2022-23, \$36 million in revenue was recognized, compared to \$38 million for the same period in 2021-22. On a year-to-date basis, revenues were \$72 million, compared to \$65

million in 2021-22. Revenue included research and development activities performed by CNL for commercial customers, as well as heavy water sales. The year-to-date increase in commercial revenue is a result of increased heavy water sales.

### **Interest Income**

Interest income is earned on cash, short-term investments from appropriations and investments held in trust. Interest income earned has increased compared to the prior periods due to higher market interest rates.

### **Other Proceeds**

Other proceeds relate to a commercial settlement recorded during the first quarter.

### **Cost of Sales**

Cost of sales is consistent with the commercial revenues noted above.

### **Operating Expenses**

Operating expenses are largely comprised of AECL's oversight expenses and amortization of tangible capital assets. Operating expenses in the second quarter of \$18 million and year-to-date of \$34 million are comparable to that of the same periods in 2021-22.

### **Contractual Expenses**

AECL delivers its mandate through a long-term contract with CNL for the management and operation of its sites. CNL expenditures (excluding costs charged to the Decommissioning and waste management provision and Contaminated sites liability, Construction in progress and Cost of sales) are reported by AECL as Contractual expenses. Expenses in this category for the second quarter total \$86 million, compared to \$84 million in the second quarter of 2021-22. Year-to-date expenses in this category total \$148 million compared to \$141 million in the previous period in 2021-22. The variance is largely a result of increased spending on science and technology activities.

### **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. Revaluation gains and losses represent changes to the estimates for the reported obligations. Decommissioning, waste management and contaminated sites expenses in the second quarter of 2022-23 of \$77 million and year-to-date of \$163 million are lower than the same period in 2021-22 due to approved changes to project estimates recorded in the prior year.

## Surplus (Deficit) for the Period

Consistent with AECL's financial reporting framework, appropriations are recognized as revenue when received in a given period, or as deferred funding to the extent they relate to the months following the period end, 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 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 2022-23 year-to-date expenditures 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 2022-23.

## Cash Flow and Working Capital

(\$ millions)	Six Months Ended	
	September 30	
	2022	2021
Cash provided by operating transactions	\$ 10	\$ 315
Cash applied to capital transactions	(68)	(43)
Cash applied to investing transactions	(75)	(5)
(Decrease) increase in cash	(133)	267
Balance at beginning of the period	262	145
<b>Balance at end of the period</b>	<b>\$ 129</b>	<b>\$ 412</b>

## Operating Transactions

Operating transactions generated a net cash inflow of \$10 million in the second quarter of 2022-23, compared to an inflow of \$315 million during the same period of the previous year. The variance is a result of appropriations received in the second quarter of 2021-22 for third quarter activities. In the current year, the third quarter funding was not received before the end of the second quarter.

## Capital Transactions

Capital transactions used cash in the second quarter of 2022-23 of \$68 million compared to \$43 million in the same period in the previous year. The variance is a result of increased spending in the current year toward newly built Chalk River site infrastructure.

## Investing Transactions

The \$75 million cash used in investing transactions in the second quarter of 2022-23 was higher than the \$5 million in the same period in the prior year. The increase is primarily due to increased investment in short-term investments during the year.

## Highlights of the Statement of Financial Position

	September 30	March 31	Variance	Variance
<i>(\$ millions)</i>	2022	2022	In \$	By %
Financial Assets	\$ 504	\$ 597	\$ (93)	-16%
Liabilities	8,940	9,117	(177)	-2%
Non-Financial Assets	887	849	38	4%
Accumulated Deficit	(7,549)	(7,671)	122	-2%

AECL closed the second quarter of 2022-23 with Financial Assets of \$504 million, which represents a \$93 million decrease from March 31, 2022. This variance is mainly the result of a decrease in cash discussed above in the Cash Flow and Working Capital section, partly offset by an increase in short-term investments.

The decrease in Liabilities of \$177 million can be attributed primarily to a \$190 million decrease in Decommissioning, waste management and contaminated sites liabilities.

## Use of Parliamentary Appropriations

AECL receives its funding primarily through Parliamentary appropriations. The appropriations are drawn down based on quarterly cash flow projections and may not necessarily match the timing of expenses reported in the Statement of Operations and Accumulated Deficit. AECL records Parliamentary appropriations received in the period as revenue in the Statement of Operations and Accumulated Deficit or as Deferred funding in the Statement of Financial Position to the extent they relate to the months following the period end. Refer to Note 9 of the unaudited financial statements for a reporting on how appropriations received were used during the period.

## MANAGEMENT'S RESPONSIBILITY

Management is responsible for the preparation and fair presentation of these quarterly financial statements in accordance with the Treasury Board of Canada's Directive on Accounting Standards: GC 5200 Crown Corporations Quarterly Financial Reports, and for such internal controls as Management determines are necessary to enable the preparation of 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 quarterly financial statements.

Based on our knowledge, these unaudited 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 quarterly financial statements.



**Fred Dermarkar**

*President and Chief Executive Officer*

November 17, 2022

Chalk River, Canada



**Thomas Assimes**

*Chief Financial Officer*

November 17, 2022

Chalk River, Canada



# UNAUDITED FINANCIAL STATEMENTS

## Statement of Financial Position

As at

<i>(thousands of Canadian dollars)</i>	Notes	September 30 2022	March 31 2022
<b>Financial Assets</b>			
Cash		\$ 129,362	\$ 262,095
Short-term investments		147,540	71,707
Long-term disposal of waste fund		31,267	29,890
Investments held in trust		71,724	73,858
Trade and other receivables	3	51,879	65,436
Inventories held for resale		71,911	93,893
		<b>503,683</b>	<b>596,879</b>
<b>Liabilities</b>			
Accounts payable and accrued liabilities	4	38,587	38,158
Employee future benefits	5	14,093	14,557
Due to Canadian Nuclear Laboratories		203,318	190,280
Decommissioning and waste management provision	6	7,245,994	7,342,841
Contaminated sites liability	7	1,437,757	1,531,318
		<b>8,939,749</b>	<b>9,117,154</b>
<b>Net Debt</b>		<b>(8,436,066)</b>	<b>(8,520,275)</b>
<b>Non-Financial Assets</b>			
Tangible capital assets	8	886,886	848,730
Prepaid expenses		-	143
		<b>886,886</b>	<b>848,873</b>
<b>Accumulated Deficit</b>		<b>(7,549,180)</b>	<b>(7,671,402)</b>
Accumulated deficit is comprised of:			
Accumulated operating deficit		(7,543,851)	(7,668,887)
Accumulated remeasurement losses		(5,329)	(2,515)
		<b>\$ (7,549,180)</b>	<b>\$ (7,671,402)</b>

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

## Statement of Operations and Accumulated Deficit

(thousands of Canadian dollars)	Notes	2023	Three Months Ended		Six Months Ended	
		Budget	2022	September 30 2021	September 30 2022	September 30 2021
<b>Revenues</b>						
Parliamentary appropriations	9	\$ 1,326,160	\$ 244,200	\$ 211,900	\$ 430,200	\$ 393,949
Commercial revenue		95,300	35,786	38,174	71,698	65,357
Interest income		4,000	3,259	685	5,105	1,631
Other proceeds		-	-	300	7,000	7,050
		1,425,460	283,245	251,059	514,003	467,987
<b>Expenses</b>						
Cost of sales		66,710	21,399	24,440	43,925	43,357
Operating expenses		68,894	17,594	16,317	34,164	33,750
Contractual expenses	10	219,265	85,548	84,011	147,658	140,604
Decommissioning, waste management and contaminated sites expenses		294,596	76,971	96,177	163,220	169,791
		649,465	201,512	220,945	388,967	387,502
<b>Surplus for the period</b>		775,995	81,733	30,114	125,036	80,485
<b>Accumulated operating deficit, beginning of period</b>		(7,668,887)	(7,625,584)	(6,984,545)	(7,668,887)	(7,034,916)
<b>Accumulated operating deficit, end of period</b>		\$ (6,892,892)	\$ (7,543,851)	\$ (6,954,431)	\$ (7,543,851)	\$ (6,954,431)

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

## Statement of Remeasurement Gains and Losses

<i>(thousands of Canadian dollars)</i>	<b>Six Months Ended</b>	
	<b>2022</b>	<b>September 30 2021</b>
<b>Accumulated remeasurement (losses) gains, beginning of period</b>	\$ (2,515)	\$ 1,621
<b>Remeasurement (losses) gains arising during the period</b>		
Unrealized (losses) gains on Investments held in trust	(2,826)	254
<b>Reclassifications to the Statement of Operations and Accumulated Deficit</b>		
Realized losses (gains) on Investments held in trust	12	(189)
<b>Net remeasurement (losses) gains for the period</b>	<b>(2,814)</b>	<b>65</b>
<b>Accumulated remeasurement (losses) gains, end of period</b>	<b>\$ (5,329)</b>	<b>\$ 1,686</b>

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

## Statement of Change in Net Debt

<i>(thousands of Canadian dollars)</i>	Notes	Six Months Ended		
		2023 Budget	September 30 2022	September 30 2021
<b>Surplus for the period</b>		\$ 775,995	\$ 125,036	\$ 80,485
<b>Tangible capital assets</b>				
Acquisition of tangible capital assets	8	(147,000)	(61,231)	(46,172)
Amortization of tangible capital assets	8	49,363	22,969	24,289
Other changes	8	-	106	202
		(97,637)	(38,156)	(21,681)
<b>Non-financial assets</b>				
Changes in prepaid expenses		-	143	(146)
<b>Net remeasurement (losses) gains for the period</b>		-	(2,814)	65
<b>Decrease in net debt</b>		678,358	84,209	58,723
<b>Net debt, beginning of period</b>		(8,520,275)	(8,520,275)	(7,820,558)
<b>Net debt, end of period</b>		\$ (7,841,917)	\$ (8,436,066)	\$ (7,761,835)

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

## Statement of Cash Flows

	Six Months Ended	
	September 30	
<i>(thousands of Canadian dollars)</i>	2022	2021
<b>Operating transactions</b>		
Cash receipts from Parliamentary appropriations	\$ 430,200	\$ 730,350
Cash receipts from customers and other sources	91,221	69,059
Cash paid to suppliers	(152,753)	(162,491)
Cash paid to employees	(7,373)	(6,926)
Cash paid for decommissioning, waste management and contaminated sites activities	(353,628)	(314,326)
Cash designated for future waste management and disposal activities	(1,057)	(990)
Interest received	3,583	772
<b>Cash provided by operating transactions</b>	<b>10,193</b>	<b>315,448</b>
<b>Capital transactions</b>		
Acquisition of tangible capital assets	(67,510)	(43,346)
<b>Cash applied to capital transactions</b>	<b>(67,510)</b>	<b>(43,346)</b>
<b>Investing transactions</b>		
Cash invested in short-term investments	(75,416)	(5,000)
<b>Cash applied to investing transactions</b>	<b>(75,416)</b>	<b>(5,000)</b>
<b>(Decrease) increase in cash</b>	<b>(132,733)</b>	<b>267,102</b>
<b>Cash, beginning of period</b>	<b>262,095</b>	<b>145,097</b>
<b>Cash, end of period</b>	<b>\$ 129,362</b>	<b>\$ 412,199</b>

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

# NOTES TO THE FINANCIAL STATEMENTS

## For the three and six months ended September 30, 2022

(Expressed in thousands of Canadian dollars)

(Unaudited)

---

### 1. General Information

Atomic Energy of Canada Limited (AECL) is a federal Crown corporation whose mandate is to enable nuclear science and technology and protect the environment by managing 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 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 2022-2023 to 2026-2027 Corporate Plan received Treasury Board approval in the second quarter of the 2022-23 fiscal year. The Corporate Plan is aligned with the direction provided by AECL's sole shareholder, the Government of Canada, and reflects AECL's plans and priorities to be delivered under the Government-owned, Contractor-operated model.

### 2. Significant Accounting Policies

#### *Basis of Accounting*

These quarterly financial statements have been prepared in accordance with Canadian Public Sector Accounting Standards (PSAS) established by the Public Sector Accounting Board (PSAB), and should be read in conjunction with the annual audited financial statements dated March 31, 2022. The accounting policies used in these statements are consistent with those disclosed in the most recent annual audited financial statements dated March 31, 2022.

Both financial and non-financial assets are reported on the 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 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 quarterly financial statements and are reviewed regularly 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.

AECL has considered the pandemic's impact on the valuation of its assets and has determined that no impairments are required. AECL has also considered the impact of the pandemic on the valuation of its Decommissioning and waste management provision and Contaminated sites liability, and where impacts were known, changes to the provision have been made.

#### *Budget Figures*

The 2022-23 budget is reflected in the Statement of Operations and Accumulated Deficit and the Statement of Change in Net Debt. Budget data presented in these financial statements is based upon the 2022-23 projections and estimates contained within the 2022-23 to 2026-27 Corporate Plan. The 2022-23 budget figures reflect the pandemic's expected impact on AECL's results.

### 3. Trade and Other Receivables

	September 30		March 31
<i>(thousands of Canadian dollars)</i>	2022		2022
Trade receivables	\$ 25,680	\$	25,159
Unbilled revenue	12,804		13,321
Consumption taxes receivable	13,395		13,956
Other proceeds	-		13,000
	<b>\$ 51,879</b>	<b>\$</b>	<b>65,436</b>

### 4. Accounts Payable and Accrued Liabilities

	September 30		March 31
<i>(thousands of Canadian dollars)</i>	2022		2022
Trade payables	\$ 759	\$	1,640
Other payables and accrued expenses	29,100		25,544
Accrued payroll liabilities	1,197		1,960
Amounts due to related parties	299		248
Provisions	4,165		4,665
Customer advances and obligations	3,067		4,101
	<b>\$ 38,587</b>	<b>\$</b>	<b>38,158</b>

Provisions are short-term in nature and are not discounted and include estimated costs related to lawsuits and 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>	<b>Three Months Ended</b>		<b>Six Months Ended</b>	
	<b>September 30</b>		<b>September 30</b>	
	<b>2022</b>	2021	<b>2022</b>	2021
Payments by employees	\$ 199	\$ 203	\$ 487	\$ 464
Payments by employer	371	277	1,208	846

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 and other post-employment benefits as described in Note 2(h) of the annual audited financial statements dated March 31, 2022. 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 voluntary termination compensation included in the reported Employee future benefits liability is \$5.6 million (March 31, 2022: \$5.7 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 to address its liabilities, reduce risk, and protect the environment. A portion of the liabilities relates to obligations stemming from activities undertaken prior to the creation of AECL in 1952.

	<b>Six Months Ended</b>	Year Ended
	<b>September 30</b>	March 31
<i>(thousands of Canadian dollars)</i>	<b>2022</b>	2022
<b>Carrying amount - Beginning of year</b>	<b>\$ 7,342,841</b>	\$ 7,362,192
Liabilities settled	<b>(244,267)</b>	(452,745)
Unwinding of discount	<b>138,682</b>	279,399
Revision in estimate and timing of expenditures	<b>7,681</b>	150,307
Estimates affecting Property, plant and equipment and future disposal costs for waste from ongoing operations	<b>1,057</b>	3,688
<b>Carrying amount - End of year</b>	<b>\$ 7,245,994</b>	\$ 7,342,841

The undiscounted future expenditures, adjusted for inflation, for the planned activities comprising the liability are \$15,607.1 million (March 31, 2022: \$15,840.1 million).

The provision was discounted using a rate of 3.78% as at September 30, 2022 and March 31, 2022.

## 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.

	<b>Six Months Ended</b>	Year Ended
	<b>September 30</b>	March 31
<i>(thousands of Canadian dollars)</i>	<b>2022</b>	2022
<b>Carrying amount - Beginning of year</b>	<b>\$ 1,531,318</b>	\$ 790,190
Liabilities settled	<b>(110,418)</b>	(204,294)
Unwinding of discount	<b>16,857</b>	15,057
Revision in estimate and timing of expenditures	<b>-</b>	930,365
<b>Carrying amount - End of year</b>	<b>\$ 1,437,757</b>	\$ 1,531,318

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 2028-29, with long-term monitoring and maintenance expected to continue for 100 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 low levels of radioactivity resulting from the processing and shipment of uranium and radium.

The liability is discounted using net present value techniques at a rate of 2.20%. The estimated total undiscounted expenditures are \$1,579.1 million (March 31, 2022: \$1,689.5 million).

## 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, 2022</b>	\$ 215,455	\$ 153,164	\$ 588,398	\$ 515,098	\$ 1,472,115
Additions and transfers	61,231	961	2,065	5,739	69,996
Disposals and transfers	(8,765)	-	(82)	(1,698)	(10,545)
<b>Cost at September 30, 2022</b>	<b>267,921</b>	<b>154,125</b>	<b>590,381</b>	<b>519,139</b>	<b>1,531,566</b>
<b>Accumulated amortization at March 31, 2022</b>	-	<b>58,003</b>	<b>246,659</b>	<b>318,723</b>	<b>623,385</b>
Increase in amortization	-	2,752	7,460	12,757	22,969
Disposals and transfers	-	-	(82)	(1,631)	(1,713)
Other changes	-	-	39	-	39
<b>Accumulated amortization at September 30, 2022</b>	-	<b>60,755</b>	<b>254,076</b>	<b>329,849</b>	<b>644,680</b>
<b>Net carrying amount at March 31, 2022</b>	<b>215,455</b>	<b>95,161</b>	<b>341,739</b>	<b>196,375</b>	<b>848,730</b>
<b>Net carrying amount at September 30, 2022</b>	<b>\$ 267,921</b>	<b>\$ 93,370</b>	<b>\$ 336,305</b>	<b>\$ 189,290</b>	<b>\$ 886,886</b>

## 9. Parliamentary Appropriations

	Three Months Ended		Six Months Ended	
	September 30		September 30	
<i>(thousands of Canadian dollars)</i>	2022	2021	2022	2021
<b>Parliamentary appropriations for operating, capital and statutory expenditures</b>				
Amount received during the period for operating, capital and statutory expenditures	\$ 244,200	\$ 425,700	\$ 430,200	\$ 730,350
Amount receivable from a previous period	-	-	-	(122,601)
Amount received related to the next period (Deferred funding)	-	(213,800)	-	(213,800)
<b>Total Parliamentary appropriations recognized</b>	<b>\$ 244,200</b>	<b>\$ 211,900</b>	<b>\$ 430,200</b>	<b>\$ 393,949</b>

The difference between Parliamentary appropriations received and recognized 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, 2023 total \$1,326.6 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>	2022	2021	2022	2021
<b>Contractual amounts paid or payable</b>	\$ 331,113	\$ 286,959	\$ 583,407	\$ 527,579
Less: Costs charged to Decommissioning and waste management provision and Contaminated sites liability	(198,421)	(159,905)	(352,985)	(313,972)
Less: Costs charged to Construction in progress	(35,501)	(29,357)	(61,231)	(46,172)
Less: Costs classified as Cost of sales	(11,643)	(13,686)	(21,533)	(26,831)
<b>Contractual expenses</b>	<b>\$ 85,548</b>	<b>\$ 84,011</b>	<b>\$ 147,658</b>	<b>\$ 140,604</b>

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

## **11. Comparative Figures**

Certain of the September 30, 2021 comparative figures have been reclassified to conform to the financial statement presentation adopted in the 2022-23 fiscal year.



**Atomic Energy of  
Canada Limited**  
Chalk River Laboratories  
286 Plant Road, Stn 508A  
Chalk River, Ontario  
Canada K0J 1J0

**Inquiries**

Public requests for information  
Email: [communications@aecl.ca](mailto:communications@aecl.ca)

**Visit Our Website**

[www.aecl.ca](http://www.aecl.ca)