Fedoruk Centre
SYLVIA FEDORUK CANADIAN CENTRE FOR NUCLEAR INNOVATION

From Vision to Impact

- Medicine
- Materials
- Energy
- Environment

SYLVIA FEDORUK CANADIAN CENTRE FOR NUCLEAR INNOVATION INC.

ANNUAL REVIEW 2013-2014

CONTENTS

Located on the University of Saskatchewan campus in Saskatoon, the Sylvia Fedoruk Canadian Centre for Nuclear Innovation (Fedoruk Centre) is an independent, not-for-profit corporation that is a wholly-owned subsidiary of the University of Saskatchewan.
The Fedoruk Centre is funded by Innovation Saskatchewan.

Find out more at: **www.fedorukcentre.ca**

MESSAGE FROM
THE CHAIR

The Fedoruk Centre has continued to make significant progress over the last fiscal year as it strives to realize its vision of placing Saskatchewan among global leaders in nuclear research, development and training.

In January 2014, the Board of Directors formally adopted *Saskatchewan's Future in Nuclear Innovation: Strategic Plan 2020*. The plan provides a broad direction to ensure that the Fedoruk Centre's investments will build nuclear research and development capacity in Saskatchewan, while delivering social and economic value to the province and its citizens. The strategic plan lays the foundation for a set of initiatives that aim to capitalize on current strengths, address gaps in capability and create powerful synergies, enabling the Fedoruk Centre to achieve the outcome of establishing a research and innovation capacity that supports a vital nuclear sector in Saskatchewan.

The Fedoruk Centre intends to achieve this outcome through the attainment of four strategic goals:

- Building nuclear expertise and capacity through the support of academic programs and research projects in nuclear medicine, materials research, energy, and the environment;
- Enhancing innovation in partnership with the research community and industry;
- Engaging communities and increasing understanding of the risks, benefits and potential impacts of nuclear technologies; and
- Ensuring the sustainability and accountability of the Fedoruk Centre and its resources.

These goals and their supporting initiatives were the product of extensive consultations and deliberation by the Board and Management of the Fedoruk Centre. As you will see in the following pages, the Fedoruk Centre and the community of researchers it supports are already achieving positive impacts for the people of Saskatchewan.

This is my final report as Chair of the Fedoruk Centre Board of Directors. It has been an honour to be involved with the establishment of this unique institution. I would like to extend my thanks to my Board colleagues and our stakeholders for their support, and congratulate the Fedoruk Centre staff and Saskatchewan's community of researchers on their achievements.

George Bereznai, PhD, PEng, FCNS
Chair of the Board

MESSAGE FROM
THE INTERIM EXECUTIVE DIRECTOR

In this year's annual review we are pleased to show some of the impacts emerging from the investments of the Fedoruk Centre and the work of our growing community of participants in nuclear research, development and training.

Since 2012, the Fedoruk Centre has committed over $2.5 million to support 16 research projects led by Saskatchewan-based researchers and their partners in nuclear medicine, materials research using nuclear techniques, nuclear energy and safety, and social and physical environment. Contributions from partner organizations have doubled the total value of those projects.

In August 2013, the Fedoruk Centre held its first *nuclear*FACTS event, where project leaders discussed their work with colleagues and our expert Project Advisory Committee. The project leaders then introduced their work and its potential impacts to a public audience, through a panel discussion and poster session. Many thanks to our project leaders and team members who shaped this event, and delivered their messages with such warmth and enthusiasm. We received constructive feedback, and expect to build on the experience of that first encounter in making *nuclear*FACTS an annual event.

The Fedoruk Centre has made good progress towards building nuclear research leadership in Saskatchewan by preparing to invest in longer-term academic programs at Saskatchewan's universities. Following careful consideration by the Board and discussion with university leaders, the Fedoruk Centre has invited two proposals from the University of Saskatchewan for programs on: (1) the application of nuclear imaging to life sciences in humans, animals and plants; and (2) the effects of radiation in the physical environment. Also, the Fedoruk Centre has invited a letter of intent jointly from the University of Saskatchewan and the University of Regina for a long-term program on good governance, decision-making and societal engagement in the nuclear domain.

Finally, we are prepared to take over the responsibility of operating Saskatchewan's newest nuclear facility: a cyclotron and laboratory that will produce the imaging agents needed for clinical diagnosis of diseases by PET-CT scanning close to home at the Royal University Hospital. Besides this immediate practical outcome, the Fedoruk Centre will ensure the facility is maintained in a state of readiness for access by Saskatchewan-based research leaders, pursuing scientific investigation

John Root discusses the potential of the cyclotron facility with Saskatchewan Advanced Education Minister Rob Norris

and innovative nuclear imaging methods for humans, animals and plants. By supporting academic research programs and providing access to this state-of-the-art facility, the Fedoruk Centre will set the stage for Saskatchewan researchers to make pioneering impacts in the world of nuclear medicine – for the diagnosis and treatment of disease – for improved health and wellness for all.

This is my final message as Interim Executive Director of the Sylvia Fedoruk Canadian Centre for Nuclear Innovation. I welcome Dr. Neil Alexander as he takes charge as Executive Director and leads our endeavour to the next level. It has been my privilege to work with colleagues and friends to establish the Fedoruk Centre, beginning a journey to build capacity for nuclear research, development and training that will deliver maximum societal and economic benefit to the people of Saskatchewan, Canada and the world. Thank you.

John Root, PhD
Interim Executive Director

Dr. Neil Alexander becomes the Executive Director of the Fedoruk Centre on July 1, 2014. Dr. Alexander comes to the Fedoruk Centre from Rolls-Royce Civil Nuclear Canada, where he has been President and General Manager since 2011. Prior to that, he served in a number of senior executive roles in the Canadian nuclear industry, including as president of the Organization of CANDU Industries and as vice-president of business development with SNC-Lavalin Nuclear. With a Ph.D. in metallurgy from the University of Birmingham (UK), he has extensive management experience in the design and manufacture of equipment used in radioisotope production, nuclear power plants, and the safe handling of spent nuclear fuel.

BOARD OF DIRECTORS

George Bereznai
Chair of the Board
University of Ontario Institute of Technology

Karen Chad
Vice Chair of the Board
University of Saskatchewan

Don Deranger
Points Athabasca Contracting LP

Greg Fowler
University of Saskatchewan

Jerome Konecsni
Innovation Saskatchewan

William Kupferschmidt
Atomic Energy of Canada Limited

Engin Özberk
International Minerals Innovation Institute

Howard Wheater
University of Saskatchewan

PROJECT ADVISORY COMMITTEE

The Project Advisory Committee, made up of prominent experts from outside of Saskatchewan, reviews and ranks project proposals that are received by the Fedoruk Centre. Since a proposal could address highly specialized, technical content from across a wide spectrum of fields, the Project Advisory Committee also seeks out the advice of subject-matter experts to serve as reviewers. Proposals are ranked according to four general criteria: Alignment, Feasibility, Partnerships and Impact.

Duane Bratt, PhD
Mount Royal University
Dept. of Policy Studies
(Chair), International relations, Canadian public policy, Canadian nuclear policy

Albert Driedger, MD, PhD, FRCPC
University of Western Ontario, Victoria Hospital (Professor Emeritus), Radiation and Nuclear Medicine, Medical Research, Biochemistry

John Luxat, PhD, PEng
McMaster University
Engineering Physics Dept.
NSERC/UNENE Industrial Research Chair in Nuclear Safety Analysis,
Nuclear Energy and Safety,
Nuclear Materials Research

ABOUT THE FEDORUK CENTRE

STRATEGIC PLAN

Saskatchewan's Future in Nuclear Innovation: Strategic Plan 2020 **was adopted by the Board of Directors in January 2014. The plan provides a broad direction to ensure that the Fedoruk Centre's investments will build nuclear research and development capacity in Saskatchewan, while delivering social and economic value to the province and its citizens, with the outcome of establishing a research and innovation capacity that supports a vital nuclear sector in Saskatchewan.**

VISION

To place Saskatchewan among global leaders in nuclear research, development and training through investment in partnerships with academia and industry for maximum societal and economic benefit.

MISSION

The Sylvia Fedoruk Canadian Centre for Nuclear Innovation meets the needs of the people of Saskatchewan and Canada by making investments in programs and projects, managing facilities, and facilitating long-lasting partnerships that will deliver positive impacts in nuclear science and technology.

VALUE PROPOSITION

The Fedoruk Centre enables Saskatchewan universities to place themselves among global leaders in nuclear research and training, creating conditions for the province to advance beyond the resource economy of uranium mining into the value-added areas of nuclear innovation in medicine, materials research, power generation and environmental stewardship.

GUIDING VALUES

Excellence:
The Fedoruk Centre's activities and investment decisions ensure the achievement of excellence in scientific innovation and community engagement.

Collaboration:
The Fedoruk Centre's activities and investments facilitate the creation of partnerships – in Saskatchewan, Canada and the world – among experts in academia, industry, government and the public.

Accountability:
The Fedoruk Centre fosters a culture of responsibility and voluntary participation in its activities and investments, while demonstrating accountability to the people of Saskatchewan, Canada and the world.

Transparency:
The Fedoruk Centre ensures an open and accessible environment in its decision-making and business processes.

OUTCOME

By 2020, the Fedoruk Centre will establish a research and innovation capacity to support a vibrant nuclear sector in Saskatchewan.

MOVING FROM
VISION TO IMPACT

The Fedoruk Centre makes investments in programs and projects, manages nuclear facilities and facilitates long-lasting partnerships that will deliver positive impacts in nuclear science and technology in:

- **Medicine:** Advancing nuclear medicine, instruments and methods
- **Materials:** Advancing knowledge of materials through nuclear techniques
- **Energy:** Improving safety and engineering of nuclear energy systems, including small reactors
- **Environment:** Managing the risks and benefits of nuclear technology for society and our environment.

Activities supported by the Fedoruk Centre are open to public view and conducted in a way that fosters conversation between researchers and the general community. As a result, it is hoped that the activities supported and conducted by the Fedoruk Centre will foster reason-based discussion about nuclear science and technology, informing policy decisions and building a base of local expertise connected with experts, industry and research organizations outside of Saskatchewan.

Strategic Goals

In *Strategic Plan 2020*, the Fedoruk Centre identified four goals as part of a balanced approach to ensure that the Centre's activities support the plan's intended outcome and addresses the expectations of the key stakeholders and the people of Saskatchewan.

Goal 1:
Build Nuclear Expertise and Capacity

The Fedoruk Centre will build expertise and develop capacity in Saskatchewan in nuclear research, development and training for positive impacts in the areas of nuclear medicine, materials research, nuclear energy and safety, and environmental and social aspects of nuclear technology. This will be done by attracting and developing research leadership in the province that supports innovation and the formation of collaborations that extend around the world.

Goal 2:
Enhance Innovation

The Fedoruk Centre will enhance innovation as a driver of economic diversification in Saskatchewan, working with the provincial research community and industry to add value to Saskatchewan's resources and contribute to economic prosperity through the application of expertise to the development of new nuclear technologies and processes.

Goal 3:
Engage Communities and Increase Understanding

The Fedoruk Centre will create opportunities for communities – researchers, decision makers and the public – to engage in evidence-based discussion and dialogue about nuclear research and development in order to increase understanding of the risks, benefits and potential impacts of nuclear technologies.

Goal 4:
Ensure Accountability and Sustainability

The Fedoruk Centre will manage its resources accountably and transparently and operate its infrastructure safely and efficiently, ensuring the sustainability of Saskatchewan's nuclear development capacity for the long-term benefit of the people of Saskatchewan.

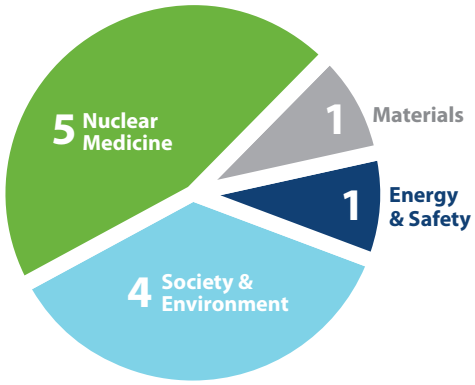
IMPACTS

Working with Saskatchewan's nuclear research community and partners from industry and academia, the Fedoruk Centre is achieving impacts and making progress towards the Centre's strategic goals.

Building Nuclear Expertise and Capacity

- **Projects:** In 2013-14, $2.02 million in funding was granted to 11 research projects. Combined with contributions from partner organizations the total funding is $3.7 million.
- **Programs:** The Fedoruk Centre has invited two proposals for academic research programs, one in nuclear medicine and another in physical environmental research.
- **Facilities:** Construction of the Cyclotron Facility on the University of Saskatchewan campus began in June 2013 and is expected to be complete i n October 2014. The Fedoruk Centre will assume responsibility for its commissioning and operation as a provincial resource for research, education and as a source of medical isotopes.

Projects by impact area, 2013-14



Partnerships

Number of partners from outside of Saskatchewan	13
Number of industry partners	10
Number of government/academic partners	8
Number of non-profit partners	5

60% of project teams have developed new collaborations since the start of their projects, including with partners from elsewhere in Canada or in other countries.

85% of researchers reported that their support from the Fedoruk Centre made it possible to leverage additional resources for their research.

27 postdoctoral fellows, graduate students and technicians have been trained or hired as part of the projects, four of whom have graduated or completed their term of work.

University of Saskatchewan professor **Chijin Xiao** and his research group received a $340,000 grant from the Natural Sciences and Engineering Research Council to expand on their nuclear fusion research initially funded by the Fedoruk Centre.

Enhancing Innovation

8 patents have been filed related to nuclear medicine.

10 industry partners involved in research projects.

11 peer-reviewed publications, theses, presentations and abstracts from supported research.

A better way to evaluate kidney function

University of Saskatchewan medical researchers Dr. Carl Wesolowski and Dr. Paul Babyn are developing a new way to test kidney function using a medical isotope. Current tests are not always accurate and require that 16 blood samples be taken in a 24 hour period. The new technique is more accurate and less invasive, requiring only four blood samples over four hours.

"The Fedoruk Centre is a terrific opportunity, particularly for nuclear medicine and physics related to nuclear medicine."

– Dr. Carl Wesolowski

Radiation detectors – there's an app for that

Zisis Papandreou, a physics professor at the University of Regina, has partnered with Saskatoon-based Environmental Instruments Canada to adapt radiation detectors used in particle physics research for use as personal radiation monitors for first responders, measuring and reporting radiation levels to the wearer's smart phone.

"As a result of the Fedoruk award, we embarked in this new direction, which serves as an excellent example of pure academic research expertise being applied to the public and private sectors."

– Prof. Zisis Papandreou

Engaging Communities, Increasing Understandings

First *nuclear*FACTS

70 people attended the Fedoruk Centre's first Forum for Accountability and Communities Talking *nuclear* Science. The event, part of the Fedoruk Centre's reporting process, has researchers report on the progress and impact of their work to each other, stakeholders and members of the public.

Nuclear Attitudes in Saskatchewan

The Saskatchewan Nuclear Attitudes Study was supported by the Fedoruk Centre. Conducted by the Nuclear Policy Research Initiative at the University of Saskatchewan, the study surveyed Saskatchewan people about their opinions and attitudes in a number of areas related to nuclear development and policy.

"We have been able to develop important partnerships that have increased our knowledge of public opinions, attitudes and knowledge of nuclear issues. Nuclear development is ultimately an issue of public policy, we hope the results of this study will inform public discussion and debate."

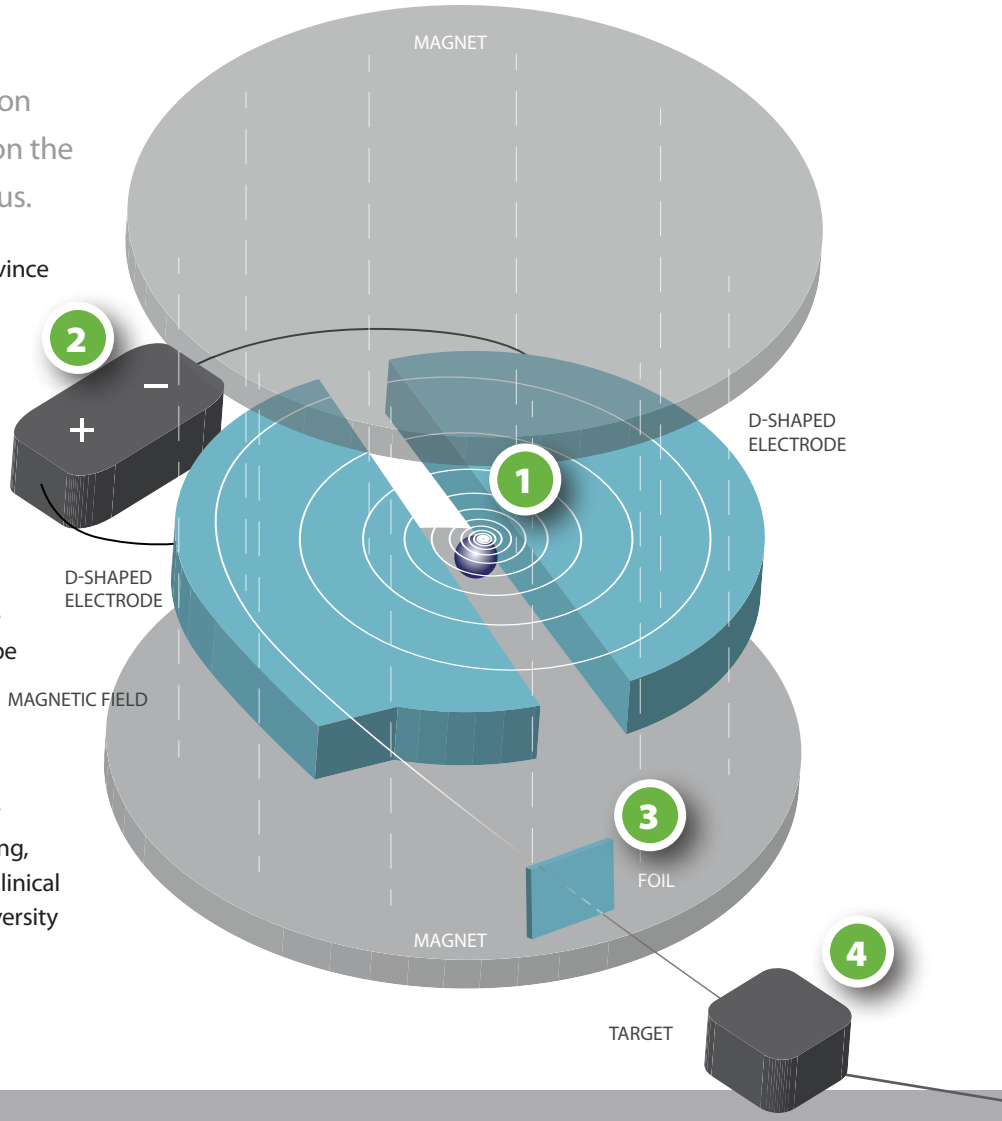
– Prof. Scott Bell, Leader
Nuclear Policy Research Initiative

CYCLOTRON

Construction began in June 2013 on Saskatchewan's cyclotron facility on the University of Saskatchewan campus.

The $25-million project, funded by the Province of Saskatchewan and Western Economic Diversification Canada, involved the purchase of a state-of-the-art TR-24 cyclotron and renovations and additions to the former Animal Resource Centre. This includes the cyclotron vault, with concrete walls that are 2.5 metres thick, as well as specialized laboratories to handle and process radioisotopes for nuclear medicine and research. Construction is expected to be completed in September 2014, with the first production of medical isotopes for human use in October 2015.

The Fedoruk Centre will operate the facility as a tool for research, innovation and training, producing radioisotopes for research and clinical use in the PET-CT scanner at the Royal University Hospital in Saskatoon.



HOW IT WORKS

1 A stream of negatively-charged hydrogen ions (atoms with one proton and two electrons) are injected into a vacuum chamber between two D-shaped plates – called 'dees' – enclosed between the poles of an electromagnet.

2 An alternating positive and negative charge between the dees moves the ion back and forth from one dee to the other. The ion accelerates every time it crosses the gap between the dees, gaining energy. The magnetic field holds the ion within the horizontal plane, resulting in the accelerating ions moving in a spiral path out towards the edge of the dees.

3 At the edge of the dee, the ions pass through a graphite foil that strips away the electrons, leaving a beam of high energy protons that are steered down a beamline to a target. Target materials can be liquids, solids or gases, depending on the radioisotope being made.

4 When a high energy proton from the cyclotron collides with an atom in the target, other sub-atomic particles are knocked out of the target atom's nucleus converting the atom into a radioisotope.

Cyclotron Installation

The cyclotron was manufactured in Richmond, British Columbia by Advanced Cyclotron Systems Inc. The cyclotron, a Y-shaped beamline, and support systems were moved by crane into a specially-built concrete vault that has walls 2.5 metres thick. When fully assembled, the cyclotron weighs 25 tonnes (55,000 pounds). The single largest piece moved into place was the cyclotron's magnet, which is the size of a small car. The magnet was hoisted by crane and lowered into place through a portal in the vault's roof, which is closed with three concrete plugs that have a combined weight of 64,400 kg (142,000 pounds).

April 2014: the cyclotron's electromagnet is hoisted into position

January 2014

The Cyclotron:

A particle accelerator that produces radioisotopes by bombarding target materials with high-energy protons.

Cyclotron type:
Advanced Cyclotron Systems Inc.
TR-24 cyclotron

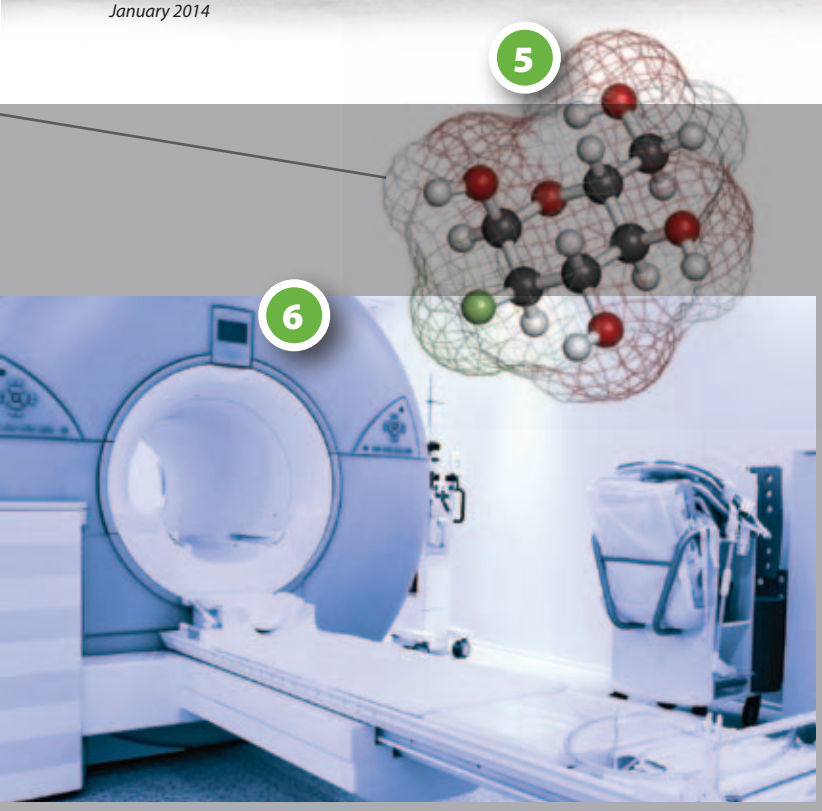
Mass when fully assembled:
25 tonnes

Cyclotron magnet dimensions:
15 cubic metres (3x2.3x2.2 m)

Beamline: One Y-shaped beamline, accommodating two target end-stations for producing radioisotopes.

The Cyclotron Vault: The vault is specially designed to ensure that no radiation produced by the cyclotron can exit into the rest of the facility or the environment.

- Mass of vault: 2.8 million kg
- Roof and wall thickness: 2.5 m
- Floor slab thickness: 1 m
- Mass of roof slab: 1.4 million kg (3 million lbs)
- Number of concrete trucks needed to pour roof: 82, delivering 505 cubic metres of special mix concrete



5 The radioisotope is separated from the target material in the facility's production laboratory. The radioisotope is tagged on to a molecule such as a sugar, creating a radiopharmaceutical. The completed drug is then shipped to a hospital or used in research.

6 In the hospital nuclear medicine department, the radiopharmaceutical is injected into a patient who is then placed in a PET-CT scanner. As the radioisotope in the radiopharmaceutical decays, it releases energy that is detected by the scanner which generates an image that is used by doctors to diagnose diseases such as cancer.

RESEARCH GRANTS
FUNDED PROJECTS 2013-14

Research Leader	Institution	Partners	Title	Fedoruk Centre Funding	Total Project
Nuclear Medicine					
David Palmer	Chemistry, University of Saskatchewan	Thunder Bay Regional Health Sciences Centre	Chemical and Enzymatic Synthesis of Novel Medical Imaging Probes	$281,714	$311,331
Humphrey Fonge	Medical Imaging, University of Saskatchewan; Saskatoon Health Region	Atomic Energy of Canada Limited, Royal University Hospital Foundation	Targeted molecular imaging and therapy of insulin growth factor type 1 (IGF-1R) positive cancers	$172,500	$322,500
Baljit Singh	Western College of Veterinary Medicine, University of Saskatchewan	The Prostate Cancer Fight Foundation	Domestic Animal Models for Human Disease: Developing Nuclear Technologies for Diagnosis and Treatment	$281,237	$409,737
David Cooper	Anatomy and Cell Biology, University of Saskatchewan	University of Alberta	Synchrotron-Based Imaging as a Stable Platform for the Study of Bone-Seeking Radionuclides	$155,710	$235,710
Chijin Xiao	Physics and Engineering Physics, University of Saskatchewan	Plasmionique	Feasibility Studies on Production of Short-Lived Radioisotopes Using a Dense Plasma Focus for PET	$115,000	$235,000
Nuclear Techniques for Materials Research					
Jerzy Szpunar	Mechanical Engineering, University of Saskatchewan	CANDU Owners Group	Prediction of Structural Transformation of Properties of Inconel X-750 Related to Helium Formation	$113,965	$253,965

Research Leader	Institution	Partners	Title	Fedoruk Centre Funding	Total Project
Nuclear Energy and Safety					
Chary Rangacharyulu	Physics and Engineering Physics, University of Saskatchewan	Atomic Energy of Canada Limited	An Integrated Approach to Nuclear Materials Selection for the Advanced High-Temperature Reactor	$112,240	$438,040
Society and Environment					
Richard Bowles	Chemistry, University of Saskatchewan	Compute Canada	Molecular Simulation Studies of Nuclear Waste Materials	$105,074	$149,874
Loleen Berdahl	Political Studies, University of Saskatchewan	Atomic Energy of Canada Limited, Carson Centre, The Spatial Initiative	Evidence and Nuclear Policy in Saskatchewan	$151,513	$233,888
Grant Ferguson	Civil and Geological Engineering, University of Saskatchewan	Atomic Energy of Canada Limited	Probabilistic Risk Assessment of Groundwater Flow and Contaminant Transport	$415,049	$820,839
Gordon Sparks	Civil and Geological Engineering, University of Saskatchewan	AREVA, Cameco, Golder Associates	Lifecycle Analysis of Greenhouse Gas Emissions from the Mining and Milling of Uranium in Saskatchewan	$113,164	$284,284

May 29, 2014

Independent Auditor's Report

To the Member of
Sylvia Fedoruk Canadian Centre for Nuclear Innovation Inc.

We have audited the accompanying financial statements of Sylvia Fedoruk Canadian Centre for Nuclear Innovation Inc., which comprise the statement of financial position as at March 31, 2014 and the statements of operations and accumulated surplus and cash flows for the year then ended, and the related notes which comprise a summary of significant accounting policies and other explanatory information.

Management's responsibility for the financial statements
Management is responsible for the preparation and fair presentation of these financial statements in accordance with Canadian accounting standards for not-for-profit organizations, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's responsibility
Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

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

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion
In our opinion, the financial statements present fairly, in all material respects, the financial position of Sylvia Fedoruk Canadian Centre for Nuclear Innovation Inc. as at March 31, 2014 and the results of its operations and its cash flows for the year then ended in accordance with Canadian accounting standards for not-for-profit organizations.

PricewaterhouseCoopers LLP

Chartered Accountants

PricewaterhouseCoopers LLP
128 4th Avenue South, Suite 600, Saskatoon, Saskatchewan, Canada S7K 1M8
T: +1 306 668 5900, F: +1 306 652 1315

Sylvia Fedoruk Canadian Centre for Nuclear Innovation Inc.

Statement of Financial Position

As at March 31, 2014

	2014 $	2013 $
Assets		
Current assets		
Due from University of Saskatchewan (note 7)	13,097,801	3,756,504
Accounts receivable (note 7)	15,316	9,680
Prepaid expenses	738	1,074
	13,113,855	3,767,258
Tangible capital assets (note 3)	59,209	77,205
Intangible assets (note 4)	-	2,500
	13,173,064	3,846,963
Liabilities		
Current liabilities		
Accounts payable and accrued liabilities (note 7)	229,667	72,571
Deferred contributions (note 5)	12,943,397	3,774,392
Accumulated surplus	-	-
	13,173,064	3,846,963

Economic dependence (note 1)
Operating lease (note 6)
Contractual obligations (note 9)

Approved by the Board of Directors

_____ Director _____ Director

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

Sylvia Fedoruk Canadian Centre for Nuclear Innovation Inc.

Statement of Operations and Accumulated Surplus

For the year ended March 31, 2014

	2014 $	2013 $
Revenue		
Innovation Saskatchewan grant – restricted (note 8)	2,130,995	912,188
Interest income (note 7)	81,961	27,834
Consulting fees	11,412	-
Contributions in-kind (note 7)	2,000	8,690
Registration fees	-	7,948
	2,226,368	956,660
Expenditures (note 7)		
Project grants	1,431,536	315,895
Salaries and benefits	516,373	423,160
Supplies and services	172,377	126,802
Travel	47,286	56,885
Rent and occupancy	38,805	22,338
Amortization	19,991	11,580
	2,226,368	956,660
Excess of revenue over expenditures	-	-
Accumulated surplus – Beginning of year	-	-
Accumulated surplus – End of year	-	-

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

Sylvia Fedoruk Canadian Centre for Nuclear Innovation Inc.

Statement of Cash Flows

For the year ended March 31, 2014

	2014 $	2013 $
Cash provided by (used in)		
Operating activities		
Excess of revenue over expenditures for the year	-	-
Item not affecting cash		
Amortization of tangible capital and intangible assets	19,991	11,580
	19,991	11,580
Changes in non-cash working capital items		
Due from University of Saskatchewan	(9,341,297)	(1,082,564)
Accounts receivable	(5,636)	(9,680)
Prepaid expenses	336	39,162
Accounts payable and accrued liabilities	157,096	39,365
Unearned revenue	-	(1,650)
Deferred contributions	9,169,005	1,087,812
	(20,496)	72,445
	(505)	84,025
Investing activities		
Proceeds from (purchase of) tangible capital assets	505	(84,025)
Net change in cash	-	-
Cash – Beginning of year	-	-
Cash – End of year	-	-

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

Sylvia Fedoruk Canadian Centre for Nuclear Innovation Inc.

Notes to Financial Statements

March 31, 2014

1 Nature of business

The Sylvia Fedoruk Canadian Centre for Nuclear Innovation Inc. (the "corporation" or "Fedoruk Centre") was originally incorporated as a non-profit organization under the Canadian Not-for-Profit Corporations Act on December 20, 2011 as the Canadian Centre for Nuclear Innovation Inc., with its parent company and sole member being the University of Saskatchewan ("U of S"). On October 5, 2012 the corporation was registered with Corporations Canada as the Sylvia Fedoruk Canadian Centre for Nuclear Innovation Inc. The corporation qualifies as a tax exempt organization under the Income Tax Act.

The mandate of the Fedoruk Centre is to place Saskatchewan among global leaders in nuclear research, development and training through investments in partnerships with academia and industry, for maximum societal and economic benefit. This purpose is accomplished through investment in projects and programs of Saskatchewan-based, publicly-funded institutions and their partners and through stewardship of selected nuclear research facilities. The first such facility will be the research cyclotron facility currently under construction by the U of S. Upon conventional building commissioning of the cyclotron facility, the U of S will maintain ownership while the Fedoruk Centre will take responsibility for regulatory commissioning and ongoing operation.

The operation of the corporation is economically dependent on the funding from Innovation Saskatchewan (note 8).

2 Summary of significant accounting policies

a) Basis of presentation

These financial statements include the accounts of the corporation and are presented in accordance with Canadian accounting standards for not-for-profit organizations ("ASNPO").

b) Use of estimates

The preparation of financial statements in conformity with ASNPO requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amount of revenue and expenditures during the reporting period. Actual results could differ from these estimates.

c) Tangible capital assets

Tangible capital assets are recorded at cost and amortized over their expected useful lives. Computer equipment and software is amortized using the declining balance method at a rate of 30%. Furnishings and equipments are amortized using the straight-line method at a rate of 20%. Leasehold improvements are amortized using the straight-line method over the term of the lease.

d) Intangible assets

Intangible assets are recorded at cost and amortized over their expected useful lives using the straight-line method.

e) Revenue recognition and project grant expenditures

The corporation follows the deferral method of accounting for contributions which includes funding from Innovation Saskatchewan and other funding sources. Deferred contributions related to expenses of future periods represent unspent externally restricted funding and any related investment income, which are for the purposes of providing funding to eligible recipients and the payment of operating and capital expenditures in future periods. Unrestricted contributions are recognized as revenue when received or receivable if the amount to be received can be reasonably estimated and collection is reasonably assured.

Contributions of materials and services are recognized only when a fair value can be reasonably estimated and when the materials and services are used in the normal course of the corporation's operations and would otherwise have been purchased.

Project grants are recognized as expenditures when the current year project grant commitment to the recipient is due under the terms of the grant agreement.

f) Financial instruments

Financial assets and financial liabilities are initially recognized at fair value and subsequent measurement is at amortized cost. The corporation does not consider itself to have significant exposure to credit risk, currency risk, interest rate risk, liquidity risk, market risk or other price risk. Financial assets are tested for impairment at the end of each reporting period when there are indications that an asset may be impaired.

3 Tangible capital assets

Tangible capital assets consist of:

			2014	2013
	Cost $	Accumulated amortization $	Net book value $	Net book value $
Leasehold improvements	36,671	11,091	25,580	33,809
Furnishings	36,193	10,858	25,335	32,574
Equipment	10,267	3,080	7,187	9,240
Computer equipment and software	3,228	2,121	1,107	1,582
	86,359	27,150	59,209	77,205

4 Intangible assets

The corporation entered into a software license agreement effective March 12, 2012. The cost of $5,000 has been amortized over the 2-year term of the agreement.

5 Deferred contributions

The corporation receives funding from Innovation Saskatchewan to be held, administered and distributed in accordance with the funding agreement. Deferred contributions related to expenses of future periods represent the unspent externally restricted funding, which is for the purpose of providing funding to eligible recipients and the payment of operating and capital expenditures in future periods. The changes in the deferred contributions balance are as follows:

	Operations $	Cyclotron $	2014 $
Opening deferred contributions	3,774,392	-	3,774,392
Contributions during the year:			
Innovation Saskatchewan (note 8)	5,000,000	6,300,000	11,300,000
Total contributions available	8,774,392	6,300,000	15,074,392
Less: Amount recognized as revenue in current year	2,130,995	-	2,130,995
Closing deferred contributions	6,643,397	6,300,000	12,943,397

	Operations $	Cyclotron $	2013 $
Opening deferred contributions	2,686,580	-	2,686,580
Contributions during the year:			
Innovation Saskatchewan (note 8)	2,000,000	-	2,000,000
Total contributions available	4,686,580	-	4,686,580
Less: Amount recognized as revenue in current year	912,188	-	912,188
Closing deferred contributions	3,774,392	-	3,774,392

6 Operating lease

On September 1, 2012 the corporation entered into a lease agreement with Saskatchewan Opportunities Corporation, otherwise known as Innovation Place, for office space. The term of the lease agreement is five years and the future minimum annual lease payments are $35,484 per year until the expiry of the lease agreement on August 31, 2017.

7 Related party transactions

During the year, the corporation entered into transactions with its parent company and sole member, the U of S. The corporation purchased goods and services from the U of S in the amount of $60,947 (2013 – $60,042), which are included in expenditures. Interest income of $81,961 (2013 – $27,834) was received from the U of S based on the corporation's funds held in bank accounts administered by the U of S.

Of the grants made during the year by the corporation, $1,385,199 (2013 – $218,322) were made to the U of S, including individuals or entities related to or employed by the U of S. At March 31, 2014, there was $7,360 (2013 – nil) included in accounts receivable owing from the U of S and there was nil (2013 – $7,154) included in accounts payable and accrued liabilities owing to the U of S.

Insurance in-kind with a fair value, at the date of contribution, of $2,000 (2013 – $2,500) has been recognized as a contribution and expenditure in the statement of operations and accumulated surplus as has rent in-kind of nil (2013 – $6,190).

The related party transactions described above are measured at carrying amounts. All funds received by the corporation are held in, and payments to vendors of the corporation are made from, bank accounts administered by the U of S. The amount due from the U of S is included on the statement of financial position as "Due from University of Saskatchewan".

8 Innovation Saskatchewan grant

The Fedoruk Centre signed a funding agreement with Innovation Saskatchewan on March 2, 2012 for a total of $30 million to be disbursed over 7 years, from January 2, 2012 to March 31, 2019. Funds are to be used solely for the purposes of the project as defined in the agreement. The agreement defines that all funds must be returned to the funder if there is non-compliance or the agreement is terminated by the funder, and at the application of the Fedoruk Centre the funder may elect to limit repayment to an amount not exceeding actual and reasonable project expenses paid by the Fedoruk Centre.

The funding agreement with Innovation Saskatchewan was amended on June 4, 2013. The amendment allows the Fedoruk Centre to redirect up to $6.3 million of the original $30 million to assist the U of S with cash flow for the cyclotron capital project. The amount redirected for the cyclotron capital project, which was paid to the corporation during the year ended March 31, 2014, will be reduced accordingly if capital costs for the cyclotron are less than $6.3 million. The amendment also provides for $1 million per year for three years, in addition to the original $30 million, for cyclotron facility operating costs. A payment of $1 million will be advanced to the Fedoruk Centre when the conventional infrastructure has been commissioned and the facility is ready for commissioning of nuclear and pharmaceutical production in compliance with regulatory authorities. Two

payments of $1 million each will be advanced to the Fedoruk Centre on the second and third anniversaries of the first payment.

9 Contractual obligations

The primary activity of the Fedoruk Centre is to provide grants to eligible individuals and their institutions for the purpose of nuclear research, development and training. The project grant awards are to be funded over a two-year period. The total maximum commitment made during the year ended March 31, 2014 was $2,017,165 (2013 – $484,785). Project grants awarded during the year ended March 31, 2014 were $1,431,536 (2013 – $285,265). The remaining maximum commitment on all projects is $785,149.

During the year ended March 31, 2014, the Fedoruk Centre signed an operating license agreement with the U of S, which will become effective upon substantial completion of construction of the cyclotron facility. The agreement calls for the Fedoruk Centre to be responsible for the operation, maintenance and eventual decommissioning of the cyclotron facility. During the term of the license agreement, an annual license fee of $520,000 will be paid to the U of S by the Fedoruk Centre, in twelve equal monthly instalments. The U of S will provide the Fedoruk Centre with an annual operating grant of $25,000.

The operating license agreement includes an agreement to provide the U of S with funding in the form of grant contributions of up to $6.3 million for the construction of the cyclotron facility. Funds from other sources are to be fully exhausted prior to any funds from the Fedoruk Centre being utilized. Currently, it is estimated that the capital project will require $4.56 million from the Fedoruk Centre. Payments to the U of S are scheduled for October 1, 2014, January 1, 2015 and April 1, 2015. Each instalment, a maximum of $2.1 million, will be adjusted according to need. The balance of the $6.3 million not required for the capital project will be returned to the Fedoruk Centre's operating account.

111-54 Innovation Blvd., Saskatoon SK S7N 2V3
306.966.3375
www.fedorukcentre.ca

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