STANDING COMMITTEE ON THE ECONOMY

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STANDING COMMITTEE ON THE ECONOMY

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Regina University

Mr. Jeremy Cockrill
The Battlefords

Mr. Ken Francis
Kindersley

Mr. Delbert Kirsch
Batoche

Mr. Jim Lemaigre
Athabasca

Mr. Doug Steele
Cypress Hills

[The committee met at 15:25.]

The Chair: — Welcome, everyone, to the Standing Committee on the Economy. I'm Colleen Young, and I will be chairing this afternoon's meeting. We also have joining us here today Jeremy Cockrill, Ken Francis, Delbert Kirsch, Jim Lemaigre, Doug Steele, and Aleana Young.

I would also welcome and like to share with you that here today we have a group of teachers attending the Saskatchewan Teachers' Institute on Parliamentary Democracy conference, and they are here to observe today's committee proceedings. So welcome.

General Revenue Fund
Saskatchewan Research Council
Vote 35

Subvote (SR01)

The Chair: — Today the committee will be considering the estimates for Saskatchewan Research Council. And we will begin with vote 35, Saskatchewan Research Council, subvote (SR01).

Minister Harrison is here with his officials today, and I would ask that officials please state their names before speaking at the microphone. And as a reminder, you don't have to touch the mikes. Hansard operator will turn on your microphone. You might just have to raise your hand a little bit if they don't see you right off the bat. So, Minister, if you'd like to begin by introducing your officials and begin with your opening remarks.

Hon. Mr. J. Harrison: — Sure. Thank you very, very much, Madam Chair, and thank you to members of the committee for making time this afternoon. It is a pleasure to be before the committee again for estimates with regard to the Saskatchewan Research Council, or SRC. Joining me on my right, Ryan Hill, SRC's vice-president of finance and acting vice-president of mining and minerals. As well, on my left is Wanda Nyirfa, vice-president of communications, growth services and risk.

SRC is the second-largest research and technology organization in Canada, and they're located right here in our province. This year SRC is celebrating a major milestone. For 75 years they have been providing valuable research, development, and demonstration to Saskatchewan industry and beyond. Over the last 75 years SRC has been a part of many important firsts for the province, and I'd like to provide a few examples of how SRC has established initiatives that benefit Saskatchewan.

In the 1970s, SRC was a leader in energy-efficient housing research, and its work formed the basis for the development of the R-2000 Standard for energy-efficient homes. In the 1980s, SRC played a large role assisting the Saskatchewan oil and gas industry by enabling the implementation of horizontal wells and the use of carbon dioxide for enhanced oil recovery. SRC Geoanalytical Laboratories' secure diamond facility was established in the early 2000s and is now the largest such facility in the world. These examples give just a small taste of the important work SRC has done over its 75-year history and the positive impacts that have followed.

Speaking of impacts, for two decades now, SRC has been measuring their economic impact within the province. SRC's 2020-21 economic impact assessment shows impacts of more than $844 million in direct economic benefits to the province, plus at least 6,000 jobs created or maintained in Saskatchewan that are valued at an additional $460 million. This means that for every dollar invested in SRC by the provincial government, a 42-times return was achieved in 2020-21. These numbers, which include a record-breaking year in terms of revenue generated, demonstrate SRC's incredible strength and resilience through the COVID-19 pandemic.

This year SRC is receiving $20.3 million in provincial investment, the same amount it received last year. As part of SRC's strategic planning process, SRC's leadership considered what Saskatchewan's biggest challenges will be from now until 2030 and beyond. SRC identified five large-scale, industrial- and resource-based projects that look to the future but are grounded in what is relevant to Saskatchewan. These projects, now incorporated into the 2030 Saskatchewan Growth Plan, are complex ones that address significant technology challenges and industrial needs. They are strategic metals; carbon capture, utilization, and storage; micro-small modular reactors; advanced mining; and agriculture and industrial water. Each requires substantial involvement in terms of capital and engagement from multiple stakeholders such as governments, academia, industry, and regulators.

[15:30]

SRC has large networks, technical and scientific expertise, and hands-on involvement with the technologies needed to bring these complex ideas to life. Not only will these projects support economic capacity building in Saskatchewan, they are also environmentally sustainable. These are large-scale projects that will take years to fully develop and mature, but we are already seeing evidence of success in many of the areas. The strategic metals project focuses on rare earth elements, or REEs. These are naturally occurring minerals that are essential to the modern economy, as they are found in electric vehicles, electronics such as phones and tablets, and in renewable power generation. For the past decade SRC has been investigating lithium and REE technologies as the industry has developed. SRC's minerals group is now internationally recognized as a centre of expertise in extraction and processing technology.

As part of the Saskatchewan Growth Plan, we have identified the importance of strategic metals and the opportunities they provide for the provincial mining sector. In August 2020 the government announced $31 million for SRC to develop the SRC rare earth processing facility, the first of its kind in Canada, laying the foundation for an REE supply chain in Saskatchewan and forming an industry model for future REE resource expansion in the province.

SRC's rare earth processing facility is currently being completed in two phases. The first, which includes a monazite processing unit or MPU, will concentrate the ore, and it will be operational in early 2023. The second phase, which includes a separation unit, will provide individual rare earth oxides, and it will be operational in early 2024.

Our government has also identified the use of enhanced oil recovery to assist the carbon capture, utilization, and storage, or CCUS. SRC has considerable expertise and experience in each of the three components of CCUS: capture, transport, and carbon dioxide enhanced oil recovery. This knowledge and technical capabilities will help us work towards the targets we set out in the Prairie Resilience climate change strategy.

In the past I have spoken about SRC's decision to decommission their Slowpoke II nuclear reactor because it was nearing its end of life and there are alternative methods to do the same type of testing now. I am pleased to report that in the fall of 2021, SRC's Slowpoke II nuclear reactor was safely and successfully decommissioned after 38 years of operation.

The highly regulated, multi-year decommissioning process, overseen by the Canadian Nuclear Safety Commission, included the removal and safe disposal of all materials associated with the reactor. Highlights during the Slowpoke II's lifetime include nearly 242,000 tests performed and over 20,000 hours of operation. The Slowpoke II leaves a strong legacy in Saskatchewan and proves, now more than ever, that nuclear is safe, reliable, and sustainable.

Given their 38 years of hands-on experience with the Slowpoke II reactor and their connections with key stakeholders across the nuclear industry, SRC is uniquely positioned to play a role in supporting the development of micro-small modular reactors, or SMRs, in Saskatchewan going forward.

In April 2022 SRC signed a memorandum of understanding with Westinghouse Electric Canada to advance micro-reactors in Saskatchewan. SRC and Westinghouse are taking a stage-gated approach on the development and implementation of a strategy to introduce a first-of-a-kind eVinci SMR and the development of its key commercial and industrial applications to Saskatchewan.

SRC has also been working in step with the mining industry since the 1960s, and throughout its history SRC's goal has been to create positive value for the province. SRC's work with clients enhances and improves Saskatchewan's presence in the minerals industry, a key sector creating wealth in the province. This is done by supporting new mineral discoveries, developing new methods and tools, as well as finding efficiencies, cost reductions, energy reductions, and environmental benefits.

Advanced mining technologies have the potential to unlock billions of dollars in Saskatchewan commodities such as potash, uranium, diamonds, and other mineral reserves such as REEs. SRC's experience in the research, design, and development of advanced mining technologies will help us access these valuable commodities.

Sensor-based sorting is one example of an advanced mining technology that SRC is experienced with. Sensor-based sorting allows waste rock to be rejected early in the crushing and grinding process by using high-tech sensors combined with the latest in artificial intelligence. Using sensor-based sorting can help mining operations reduce energy, capital, and operating costs, along with greenhouse gas emissions.

Finally, with increased economic growth and population increases in the future, it is likely that Saskatchewan will see increased consumption of water for agriculture, industrial, and domestic use. Saskatchewan generally has adequate surface water resources, but regional variations can limit availability for agriculture and industrial users. Effective water management and being able to adapt to water availability will be a key part of SRC's work in agriculture and industrial water resources.

Last year the Water Security Agency announced a $1 million investment to partner with 10 stakeholder organizations on 11 agricultural water management and demonstration projects. SRC is helping to advance this initiative as one of the stakeholder organizations. All of this shows that SRC has an ambitious strategic plan which will help ensure ongoing future economic, environmental, and social impacts.

With a focus on projects that expand Saskatchewan's industrial and resource base, SRC is also supporting the development of new resources, value-added manufacturing, and the application of emerging technologies. I would like to note some additional examples that help provide an understanding of the breadth of work SRC does currently to assist industry.

Through its Centre for the Demonstration of Emissions Reductions, SRC helps the oil and gas sector to identify, test, verify, and quickly deploy methane-reduction technologies that are best suited for their unique needs. The centre is playing a leading role, creating environmental benefits and helping sustain primary natural resource industries in Saskatchewan by encouraging and enabling the adoption of greenhouse gas emission reduction technologies.

SRC recently received a $350,000 grant from the Ministry of Energy and Resources to aid in the development of the Government of Saskatchewan's emissions inventory. SRC's process development team has begun compiling information for the emissions inventory, which Energy and Resources will use internally to help confirm and inform current and future emissions reductions from the upstream oil and gas sector. The Saskatchewan emissions inventory is one of two initiatives created by the province to support responsible energy production that enhances Saskatchewan-specific data and ensures the province remains one of the most sustainable energy producers in the world.

Another project between SRC and the Ministry of Energy and Resources will help further the development of helium processing and liquefaction hubs in the province. SRC has received a grant of $140,000 to complete a helium liquefaction hub study, which will incorporate technical and economic components and provide the critical information needed to develop a commercial-scale, value-added, export-oriented helium sector in Saskatchewan.

The helium study will bring together helium stakeholders and help provide companies with the information they need to make major investment decisions around establishing Saskatchewan as a regional helium liquefaction hub in Western Canada and the surrounding US [United States] states. The study will also include helium supply volume forecasts from Saskatchewan, neighbouring provinces, and states under different market scenarios and a ranking of specific site locations.

SRC is the research provider for a new high-power industrial CT [computerized tomography] scanner to help the oil and gas industry in Saskatchewan develop a better understanding of enhanced oil recovery processes. The scanner has additional uses for other industries, including the mining sector as well as industrial non-destructive testing. It's located within SRC's facilities in Regina and will help SRC create and analyze CT images of oil reservoirs to better understand reservoirs, optimize oil recovery processes, and develop new or better ways to produce oil.

Since May 2020, SRC has been helping the Ministry of Energy and Resources expedite the accelerated site-closure program, or ASCP, which is accessing up to $400 million over two years to see up to 8,000 inactive wells and facilities abandoned and reclaimed. The program is rolled out in several phases and has been very successful, as it has prioritized Saskatchewan-based service companies and created full-time jobs.

As of March 31st, 2022, $370 million in work packages have been executed with licensees, and more than $243 million in invoices have been generated by Saskatchewan vendors. As of January 2022, the program had issued work packages to 153 different licensees and engaged over 689 unique Saskatchewan-based service companies. As of January 31st, 2022, the program has completed 4,376 well abandonments, 1,666 flowline abandonments, 49 facilities, and 8,080 site remediation and reclamation activities.

SRC is leading another major remediation project that has been ongoing for well over 10 years now and will soon be wrapping up. Work continues through project CLEANS [cleanup of abandoned northern sites], the remediation being done at 37 abandoned uranium mine and mill sites in northern Saskatchewan. The Lorado mill site has been completely remediated. The Gunnar mine and mill site is currently undergoing major remediation with completion scheduled in the next four years, and 18 smaller satellite sites have also been fully remediated.

The project will ultimately remediate the sites with positive economic, environmental, and social impacts, ensuring a safe environment for those that live and work in the area. The project has been successful by integrating a variety of stakeholders and local knowledge into the work by creating various training opportunities for local people and by building substantial, quantifiable capacity for the northern region going forward.

In June 2020, as part of a provincial $7.5 billion two-year capital plan to build a strong Saskatchewan and stimulate Saskatchewan's economic recovery from COVID-19, SRC received $15 million of infrastructure funding to consolidate its mining and minerals operations into a single fit-for-purpose building in Saskatoon. The facility, now complete, is home to roughly 90 employees working across SRC's geoanalytical laboratories, mineral processing, rare earth element, and development engineering and manufacturing groups. This new facility is enabling SRC to optimize and expand expertise and capabilities as they move into driving new technology and innovation to support Saskatchewan's natural resource industries including diamonds, potash, uranium, gold, and base metals.

SRC's geoanalytical laboratories, now located in this new facility, is celebrating a milestone of its own this year, 50 years of service providing high-quality analysis to the exploration and mining industry. The laboratory offers geochemical and mineralogical analysis, with expertise in base metals, gold, lithium, uranium, potash, rare earth elements, and diamonds, to its clients from Saskatchewan and around the world.

In closing, it's clear that SRC continues to add value to the Saskatchewan economy through the responsible application of science and technology for the mining, energy, environmental, and ag-biotech sectors in the province, and I look forward to taking any questions from the committee members.

And I would just add, it was my understanding or it was brought to my attention that there was some concern by one of the opposition members that the committee had been scheduled on short notice. I can inform the Chair that this was agreed to between House leaders on April the 20th. So if that information wasn't passed along to that member, she needs to talk to her House Leader. Thank you, Madam Chair.

The Chair: — Thank you, Minister. I will now open the floor to questions from members, and I'll recognize Ms. Young.

Ms. A. Young: — Thank you, Madam Chair. Just a simple question of clarification to start. The fifteen-and-a-half-million-dollar variance from last year to this year, am I right in assuming that's the rare earth processing?

Hon. Mr. J. Harrison: — Yeah, the fifteen-and-a-half- million-dollar reduction is entirely attributable to the completion of the funding allocation for the rare earth project.

Ms. A. Young: — Thank you. And perhaps by way of follow-up, I'd be interested in a slightly more expansive comment on the state of the build for that facility and the progress being made so far, recognizing the introductory comments that were made by the minister.

Hon. Mr. J. Harrison: — I will ask Ryan Hill to speak to that.

Mr. Hill: — Ryan Hill. The plant is currently in the procurement process. We have a facility partially built at this point in time. We are in the process of procuring the equipment for the monazite processing unit, the MPU. And we're also doing the initial work with regards to the separation unit, so doing testing and analysis with regards to separation cells.

Ms. A. Young: — Thank you. And does that procurement go through the Ministry of SaskBuilds and Procurement?

Mr. Hill: — We work with SaskBuilds with regards to all of our significant procurement.

Ms. A. Young: — Okay. And with, you know, the expansion of this area for SRC, I'm interested if you have a comment that could be offered on whether this will necessitate, like, an increased supply of . . . Is it monazite?

[15:45]

Hon. Mr. J. Harrison: — Maybe, Ryan, you want to speak to that? And then maybe I'll add to your response as well.

Mr. Hill: — It will necessitate a supply of monazite. Not just monazite — though that is the product that goes into it that we extract the rare earths out of — but also a significant number of chemicals, various other things that go into the plant to be able to do it. So there'll be a fairly significant increase in supply of various different types of items.

Hon. Mr. J. Harrison: — And maybe I'll just add a little bit, talking about the investment and talking about the opportunity this presents for the province, over and above kind of specific, you know, questions which I'm sure more will be asked on that, and that's fine.

I would say, you know, as far as the degree of interest and the degree of importance of this investment and the province moving into this space and rare earths, this is really a globally significant move. Right now it's well over 80 per cent, nearly 90 per cent of rare earths, all of them in the world that are produced are produced in China.

And for most people, I mean, you hear "rare earths" and you kind of wonder, well what's that? What they are is, it's a collection of 17 different minerals, and what they are used for really are fundamental to how we undertake our daily life. In your, you know, phone I think there's six or seven different rare earths that are necessary — not just included, but are necessary — in order for smart phones to operate. In the production, large-scale production of batteries, for example, absolutely pivotally important is rare earth production.

Right now in the defence industry, whether that be, you know, in the United States or Canada or the United Kingdom, rare earths are absolutely integrally important to basically all of the high-end systems that are used in the defence of our countries going forward and have been in the past. All of these are entirely dependent on a Chinese supply chain right now, and without having to explain in detail why, I think people understand why that's a problem. And having that supply chain that is, at that high level, dependent on the Chinese supply chain, it presents a lot of problems.

So what has happened in the past is that the Chinese have used their market dominance. And these are entirely state-owned enterprises, so this is not kind of a free market sort of scenario where you have companies operating in a market environment that are selling — willing buyer, willing seller — at market rates. These are materials that have been used by the Chinese Communist Party, which governs China, to further the national interests and the political interests of the state of China.

So there is not a sort of market discipline in this area, and these are not products and commodities that are sold on a market basis. And what they have done in the past, where companies have sought to enter into the rare earth space, is have manipulated the market through the direction of state mechanisms to create conditions in which that development would be uneconomic for private companies to enter into.

So really for an industry of this nature to develop anywhere outside of China, you really need to have support from government in order to make it happen. And that was really a big part of the policy rationale, in addition to the fact that it really makes sense for this industry in North America to be located in Saskatchewan, and more specifically on the processing side in Saskatoon.

So we, you know, move forward, I would say, boldly into this space in providing SRC as the company that is actually undertaking this, government resources, in order to create the conditions for a supply chain for rare earth production to take hold and expand into the broader private sector because of the fact the economics have been established in our jurisdiction. And I think that it's fair to say that we are quite confident that that is happening. Companies, private companies are making significant investments in this space on the confidence of the fact that we move forward. SRC has moved forward into not just to MPU, the monazite processing unit, but into the further stage of processing oxide.

So this though has garnered incredible attention internationally. You know, I've had the real opportunity to meet with a lot of, you know, significant leaders from around the world in the last little while. And you know, as an example, we met with Senator Joe Manchin two weeks ago, I think, at his request in Calgary, who was incredibly well briefed on the state of this project. And the reason for that is because how incredibly important it is for the United States as a strategic project. And you know, based on that, we're going to be having some further discussions about how there can be further involvement perhaps, or some options, or at least discussions about how some of the United States government can be perhaps a part of things going forward.

You know, the degree of interest I know the Premier received recently in Europe from, you know, leaders from the United Kingdom, in other parts of the continent, has really been remarkable both on the financial side and also on the political side. This came up in meeting after meeting. I just got back from a trade mission to India, and this came up with Indian minister after Indian minister who were very, very highly aware of this project as well.

So this has really garnered very, very high levels of international attention because of the importance for that supply chain, the development of that non-Chinese supply chain. So it's really an exciting project and SRC have been doing a very, very good job in moving forward with this. With that, I'll maybe open for the next question.

Ms. A. Young: — Thank you. So my understanding is that there is currently about 2 or 3000 tonnes that are utilized by SRC annually. Is that accurate? About 3000 tonnes.

Mr. Hill: — It is the objective of the plant to be able to utilize 3000 tonnes of monazite to begin with. That is what's going to be utilized annually once the plant opens. However, there is very much attention to and looking at expanding that beyond the 3000 tonnes annually.

Ms. A. Young: — Perfect.

Hon. Mr. J. Harrison: — Yeah. And I would maybe just add to that. As Ryan rightly points out, based on the huge amount of interest in the ultimate outcome and the resource, you know, there have been some discussions about what accelerating this project is going to look like. And I would just kind of say, stay tuned in that regard as far as accelerating the time frame and

scale.

Ms. A. Young: — Thank you. That was going to be my next question. Perhaps you know, recognizing the significant deposits that have been announced over the past, I guess, two years in Saskatchewan — I believe it started to hit the news around 2020 in regards to rare earth — I'm wondering if you could talk about perhaps the opportunities for Saskatchewan as a province with some of the value-add that this project can be providing and some further goals, as you alluded to in your last comments.

Hon. Mr. J. Harrison: — Maybe I'll just, you know, have a brief comment and then maybe, Ryan, if you want to add some more to it. But you know, I think I addressed, as far as the opportunity and importance, you know, in a previous response.

But you know, Saskatchewan is very, very fortunate and blessed to have a very significant quantity of natural resources in this province. And you know, this government is intent on making sure that those resources are developed for the benefit of our public and our people that live here, and with rare earths it is no different. But this is really a emerging area where we do want to see Saskatoon being the processing centre for North America. We're going to be one of the very, very first to market in this space, you know, and it's as a result of the fact that we have put a lot of work into this.

And SRC has been working on this for a long time. SRC has been working on this for over a decade. It didn't just come out in the last couple of years; this has been a very, very long-term commitment. And SRC is well recognized as one of the genuine centres of expertise in this space in the world, and that's not by accident. It's because there has been a long-term vision on seeing where the ball is going to go and being prepared when the time was right to move. And we are.

So maybe, Ryan, if you want to add anything to that, feel free.

Mr. Hill: — There are some specific entities that we're working with in Saskatchewan that are not only based within Saskatchewan but also actually worldwide, one of them being Cheetah metals out of Australia. They have a bastnaesite mine under Vital Metals in the Northwest Territories and they're actually building their version of the monazite processing unit, but of course utilizing bastnaesite within Saskatoon due to our expertise and our expansion looking into the rare earth element hub.

We're also working with Appia, which is looking to do a monazite mine within the Athabasca Basin area in northern Saskatchewan. Beyond that and the value-added consideration, after the separation you put the separated rare earth specific in the neodymium and praseodymium into a metal, and that becomes a magnet metal that gets utilized in a lot of the technologies that Minister Harrison talked about. We're looking to expand into the metals portion also, and of course keeping an eye towards the additional value-added down the line after that.

Ms. A. Young: — Thank you. Moving back to some more general questions, you know, year over year the Ministry of Energy and Resources will often provide grants to SRC for various programs or studies. Can you speak to what grants were received last fiscal from the ministry and provide the amounts for each?

Mr. Hill: — We have $350,000 associated with the Government of Saskatchewan's emissions inventory. And that's a new initiative whereby we . . . taking and confirming and informing both the government and industry on current and future emissions reductions from the upstream oil and gas sector.

We also have $140,000 associated with the helium liquification hub study and looking to incorporate technical and economic components to provide critical information needed to develop a commercial-scale, value-added, export-orientated helium sector within the province of Saskatchewan.

In addition to that, we do have the actual accelerated site-closure program. For that one in the previous year, the accelerated site-closure program and the project CLEANS in the previous year — I apologize, I'm just scrolling down to the appropriate area — we had $94.427 million associated with those two.

Ms. A. Young: — And the 94 million was for last fiscal?

Mr. Hill: — Yeah, last fiscal.

Ms. A. Young: — And as you know, it was in the news, the Provincial Auditor indicated that the Ministry of Energy and Resources had violated government legislation by handing out some of the grants for cleaning up inactive oil wells before approval. And I believe it was listed that the ministry had said to have paid $125 million to SRC in instalments in 2020-2021. Can you speak to what occurred and why an order in council wasn't obtained?

Hon. Mr. J. Harrison: — Yeah, I mean, I can speak to, or Ryan can speak to the funding arrangement with E & R [Energy and Resources]. But as far as the specific E & R question, that will have to be put at E & R estimates. But as far as the relationship with E & R, we can speak to that.

Mr. Hill: — With E & R, we worked with them throughout the process to be able to get an agreement in place between ourselves and the province of Saskatchewan. My understanding with regards to the trigger mechanisms surrounding the order in council, it was actually associated with a repayment from the province back to the federal government that was required. And the reason that that didn't occur is because that agreement was actually delayed within the process, and so they didn't know it was required until later on in the process.

Ms. A. Young: — And sorry, the nature of the delay was federal or . . .

Mr. Hill: — Negotiated between the provincial government and the federal government.

Ms. A. Young: — Thanks. And what's the current number of FTEs [full-time equivalent] for SRC right now?

Mr. Hill: — The current number of FTEs for SRC is 260 approximately.

Ms. A. Young: — And have there been any major . . . any changes at the executive level?

Mr. Hill: — We've had one reduction at the executive level within the past fiscal year.

[16:00]

Ms. A. Young: — And is that a program change or attrition, retirement?

Mr. Hill: — Just overall program direction change.

Ms. A. Young: — Thank you. And what was the program impacted by that decision?

Mr. Hill: — It was the mining and minerals division.

Ms. A. Young: — And sorry, there's been a reduction in terms of an executive position in the mining and minerals area?

Mr. Hill: — Within SRC. And it was the individual, the VP [vice-president] in charge of mining and minerals.

Ms. A. Young: — So in the '19-20 annual report there's, I think, 7,515 jobs created, retained, listed as a real significant measure of success for SRC, which of course is truly laudable. And then in this year, recognizing, you know, the changes over the past few years, I believe it was 6,000 jobs created and retained that was listed in the 2020-2021 annual report. I'm wondering if you can speak to the specific areas where that reduction occurred and any thoughts or projections as we move forward.

Ms. Nyirfa: — Wanda Nyirfa. When we do our economic impacts, the process is based on the voice of the client. So we go directly to industry and to our clients. So those numbers will fluctuate based on what's happening in markets, what's happening in industry. So it's not necessarily an indicator of something specific, and here's what's happened in a program or this work. It's just what's going on and a reflection of that. So year over year we go to industry, to our clients, ask them, how have we helped you? Have there been jobs created? So it just sort of fluctuates with industry.

Ms. A. Young: — No, absolutely. And I think that's a great process, and it's wonderful to see such a client-focused engagement. I was just wondering with, you know, the very specific numbers that have been committed to in years past, if there was a sense from SRC of where those specific losses had occurred? Or am I assuming it was spread kind of across . . .

Ms. Nyirfa: — Yeah. Sorry. I think, yeah, it's more of the being spread across because we're going to all of the different industries that we work with, and just it's a reflection of year over year. So it's not a specific here's exactly where.

Ms. A. Young: — Right. So there wasn't like a specific industry partner that was lost and is no longer considered a client or anything like that?

Ms. Nyirfa: — Right. Yeah.

Ms. A. Young: — Great. Thank you. Have there been any significant changes to the board of SRC in the past year? Atypical membership changes?

Hon. Mr. J. Harrison: — There were a couple of long-serving board members who are no longer on the board. And three new board members, I believe, were appointed to the board.

Ms. A. Young: — And the three new board members, that's not an expansion? They're replacing . . .

Hon. Mr. J. Harrison: — Okay. So I'm told there are . . . Yeah, there are three in total that went off and three that went on.

Ms. A. Young: — Perfect. And that change, that turnover is simply long service?

Hon. Mr. J. Harrison: — Yeah. I mean there were new board members who were appointed to replace board members who had . . . I don't know what the length of service was honestly, but you know, there had been some board members who had been long-serving board members. I believe some had moved out of province, and there was a determination to have new board members appointed to replace them.

Ms. A. Young: — Thank you. On September 12, 2021, SRC had a news release on the website regarding a cyberattack shortly after it occurred. And a couple questions in this regard. Minister, are you or either of your officials able to speak to what entry point was used by intruders?

Mr. Hill: — The entry point with regards to the intruders was associated with, we believe, a file, a file entry. It's difficult to determine how long the file was on site before it actually took and propagated.

Ms. A. Young: — Is this a type of attack that's preventable?

Mr. Hill: — All types of attacks are preventable, but ultimately it's difficult. And as more and more information gets out there, more and more information gets utilized, it's not unfortunately going to be a matter of whether it's going to be another attack. It's a matter of when.

Ms. A. Young: — Certainly we hear that in industry and hear it time and time again in estimates. Were there any specific precautions put in place as a result of this attack to prevent it from happening again or to mitigate the impact of another cyberattack?

Mr. Hill: — We've done both measures with regards to the cyber incident. We've put additional measures in place to be able to take and limit any attack if it ever occurs, specifically utilizing more cloud services. The incident didn't actually take and impact cloud unless it was something that was replicating from a server to the cloud. And then we've also put additional security in place to be able to hopefully eliminate the ability for a similar type attack to be able to impact us in the first place.

Ms. A. Young: — And was any confidential client information obtained by hackers?

Mr. Hill: — There's no evidence that any confidential information left SRC whatsoever.

Ms. A. Young: — And were all impacted — if any — clients contacted and informed of this?

Mr. Hill — We've talked to all of our clients. There was no impacts with regards to information. Of course the impacts were associated with regards to billings and paying bills and things like that, getting reports out. But all impacted clients were informed.

Ms. A. Young: — And is there a cost associated with this attack for SRC?

Mr. Hill: — The cost was approximately $400,000 of direct costs associated with replacing equipment to be able to ensure that everything was clean, and then really just delays with regards to work. It's not actual lost work. It was just we had to take and wait a little bit before we were back up and running, before we were able to deliver on that work.

Ms. A. Young: — So when you speak of direct costs, I'm hearing that there was impacted hardware that was removed from SRC.

Mr. Hill: — Yeah, we took and we replaced all servers and hard drives within the computers.

Ms. A. Young: — So then how much of the organization was impacted, and for how long?

Mr. Hill: — The organization was . . . It was caught within two hours of it occurring and actually was still caught in the process of it occurring, and it was shut down. We replaced everything just to ensure that it wouldn't be impacted in the future.

Ms. A. Young: — Yeah, I note September 12th is a Sunday.

Mr. Hill: — Yeah. We actually had an employee on site on Sunday that was working on something and noticed something odd on their computer and contacted IT [information technology]. And then we had everything taken and shut down within a very, very short period of time after that.

Ms. A. Young: — So has the organization, has SRC established what the costs associated would be with that lost revenue or missed project deadlines?

Mr. Hill: — There was no cost associated with it. We were able to take and recover from that lost time within the period up until March 31st.

Ms. A. Young: — And missed project deadlines?

Mr. Hill: — No costs with regards to missed project deadlines. All of our clients were understandable with regards to it.

Ms. A. Young: — And so that $400,000 number that you cited, that's the total cost associated with bringing the organization back online after the attack?

Mr. Hill: — Yeah, that's the total cost associated with it. There would be some additional overtime of course, but it's immaterial.

Ms. A. Young: — So you know, recognizing the initial comments that were made and that, you know, cyberattacks and cybersecurity is obviously increasing frequency and increasing importance respectively, can you speak to any of the lessons learned here that could be applied to other government organizations? Certainly we see and will likely continue to see cyberattacks for both public and private institutions, but I'm curious what lessons you feel could be taken from this — especially as it relates to the hardware piece, which is unique — and how they could be applied to government organizations.

Mr. Hill: — I'm probably not the best individual to speak to this, but really the lessons learned for ourselves taken away from that is just additional training. We already have monthly training that we provide to all staff for the purposes of cybersecurity. We have monthly modules that staff are required to go through, and they're tested at the end. Even with that though, there's always a risk of being able to be impacted just because you have individuals involved.

What we really learned from it is limiting the ability to be able to open up attachments from emails, of course additional training surrounding that. We had provided training previously. But more than anything was taking and utilizing more cloud-based services with regards to data storage, because none of our cloud-based services would have been impacted by it if it wasn't for the fact that we were replicating files from servers to the cloud.

Ms. A. Young: — Sorry. Can you expand on that last point? Am I understanding correctly that files that were stored on the, you know, computers proper within SRC were being then, I believe you said, replicated to the cloud and that was the source or that was the . . .

Mr. Hill: — That was how they took and were able to impact some of the cloud-based files. And we've removed that functionality now, but if that wasn't the case to begin with, it wouldn't have impacted any of the cloud-based files period.

Ms. A. Young: — And what are the ongoing costs associated with cloud-based storage for SRC, understanding the massive data sets that can sometimes be associated with this type of research?

Mr. Hill: — I can't remember off the top of my head. We'll have to get you that information.

Ms. A. Young: — Thank you. I look forward to that. In the interim, can you speak to, perhaps at a higher level, some of the increases and costs associated with that, more broadly for the organizations who make that transition?

Mr. Hill: — Beyond the additional cloud-based storage, there aren't really any additional costs associated with it. We are looking at other software that we can change over to being cloud-based in the future and there would be costs associated with those, but we don't have an estimate for those yet.

Ms. A. Young: — And what was the research project that was impacted or the nature of the data set?

Mr. Hill: — There wasn't any lost data. We had backups in place that we were able to take and recover.

Ms. A. Young: — Yeah, sorry, perhaps you misunderstand. I thought I understood that it was, you know, an individual at work on a Sunday working on a specific project. I'm curious what that was.

Mr. Hill: — He was actually in working on the physical project and noticed on his computer that something odd was happening, so there was no impact with regards to data.

Ms. A. Young: — And no indication of what the intruders were after?

Mr. Hill: — The intruders weren't after anything. It was just a blanket attack similar to other types of attacks. It wasn't targeted specifically at us as far as we know.

Ms. A. Young: — Thank you. And I want to recognize, I think, all of the work that goes into dealing with those. And you know, I know SRC was excellent about transparency and the regular updates that were being provided on its website to employees in the wake of that. I know it was appreciated by employees.

I did notice that, you know, there were progress updates regularly available and accessible online and now it's archived and there's no information available online, I think, besides a list of phone numbers. Can you just speak to that communication piece?

Ms. Nyirfa: — Yeah, it's no longer online because we're fully recovered, so again it's just been removed.

Ms. A. Young: — Thank you. Perhaps moving on to the work on SMRs. With the commercial and industrial applications for SMRs being explored, as I understood from the minister's comments, in association with Westinghouse, can you speak to the nature of the relationship between the work under way at SRC as well as the business case being independently developed by SaskPower?

[16:15]

Hon. Mr. J. Harrison: — I just want to clarify that I think the member has conflated the SaskPower SMR program with the Westinghouse-SRC relationship, which is for small SMRs, or micro-SMRs, which are much smaller scale, you know, 5 megawatts sort of nuclear batteries, which is the eVinci model that Westinghouse has been developing in co-operation with SRC.

So we have formally entered into a partnership with Westinghouse on that particular project. And you know, obviously Westinghouse had a large number of folks they could have selected but selected SRC. And we, I think it's fair to say, are very looking forward to this relationship and this partnership which has been, you know, many months if not longer in progress.

This is a very exciting area of development in the nuclear space. I think what we envision at SRC and what Westinghouse envisions as the developer, is having micro-reactors that are capable of providing reliable, long-term, safe baseload power to remote communities for example, to remote mine sites for example, and also many, many other applications which Westinghouse is very much interested in exploring, developing.

And that really is the role that SRC is going to play, as a nuclear licensee and operator for nearly 40 years and the only nuclear licensee in Saskatchewan with a great deal of expertise in this space. So we are looking forward to that. We entered into a formal agreement in the last month or thereabouts with Westinghouse going forward.

But I'll maybe ask Ryan if he wishes to speak to maybe some of the details about the applications of what this technology and how this project is looking to move forward.

And I should just say by way of kind of backing up right to the start, because it was my remiss to not apologize for our CEO [chief executive officer] Mike Crabtree, who couldn't be here today. And Mike is really a subject matter expert in a lot of these areas, so we've, you know . . . I should have said that right at the very beginning.

But, Ryan, if you want to speak to the micro-reactor?

Mr. Hill: — The micro-reactor, the eVincis, they can really be utilized for remote communities, remote mining sites, things like that. They produce both electricity and also industrial heat. So we're also currently investigating applications with regards to the industrial heat side and utilization within various different sectors such as oil and gas, things like that.

Ms. A. Young: — Thank you. Now I appreciate the distinction.

However the Minister for SaskPower, I believe, spoke of the importance of micro-reactors as Saskatchewan moves forward, you know, establishing energy security, looking at increasing access to reliable baseload power with the oncoming federal regulations for emissions, especially for northern remote communities as well as large industrial clients who may exist.

But you know, going back to my first question, am I to understand that there is no discussion that happens between the work under way at SRC and that under way with SaskPower?

Mr. Hill: — We're working with SaskPower, not only with regards to their own SMR program, but we're also in discussions with SaskPower with regards to our micro-reactor program.

Ms. A. Young: — Thank you, and are you able to expand on that?

Mr. Hill: — We're still early stages within the program, and so we're just in initial discussions with SaskPower surrounding it.

Ms. A. Young: — And can you speak to any associated public dollars that are flowing into that work this year?

Hon. Mr. J. Harrison: — I mean, there isn't a fiscal allocation at this point for the micro-reactor projects. That's not to say, though, that there isn't going to be at some point in the future, whether, you know, in year or a new budget year. You know, those decisions will be made when we get to the point where they need to be made.

But you know, I would just say that this is an area where the government feels there to be a tremendous amount of opportunity and that there is a tremendous amount of potential in that Saskatchewan really is uniquely positioned to be a partner and take advantage of this opportunity and potential.

You know, the second-largest reserves of uranium in the world

are in Canada, and 100 per cent of those reserves are in Saskatchewan. And again, something that is very, very well known around the world. And a world particularly that is looking to secure long-term, stable, reliable supplies of uranium as the world increases the deployment of nuclear reactors, whether that be large-scale traditional reactor units — which a number of countries have committed to expanding the use of — or whether that be in the development and widespread deployment of small modular reactors which are going to be a very, very large part of what the solution and future look like when it comes to clean energy production.

We are very much in an almost unique position to be a part of that widespread deployment of these technologies, simply because we have the fuel source. But in addition to that, the fact that we have the opportunity to add value to that source, which traditionally has been opposed by the party opposite, I would say, Madam Chair, almost at every step of the way has been opposed from additional value-add to production and all of the elements in between, which is a real difference between the opposition and the government.

So we see this as being a very exciting area. We see this as being an area where Saskatchewan needs to be a leader. And we also see this as an area where there's going to be tremendous opportunity and benefit for communities already who are benefiting from the industry but who we really want to see benefit even more. That's our northern communities. And we think that there really are just tremendous opportunities to expand the number and quantity of folks who would be employed in this sector. So I would add that as far as what our objective and thinking is going forward.

Ms. A. Young: — Thank you. And I'd just like to state for the record, I think it's real unfortunate that we're wading into kind of partisan nonsense here, especially when we in the opposition have been, I think, entering into this discussion on SMRs in a good way, with integrity. And having officials here present, this isn't the place to have, you know, partisan wrangling or, you know, cheap shots. This is about discussing the budgetary estimates, and I don't think . . . I guess I'm just disappointed by those comments.

But I would like to return to my initial question. Just in this fiscal, I'm to understand that there's no money in SRC specifically going towards the work that's ongoing with SMRs. Correct?

Mr. Hill: — Working with Westinghouse, we have applied and been approved for $40 million of SIF-5 [Strategic Innovation Fund, stream 5] funding that's going towards this program over the next five years.

Ms. A. Young: — And I'm unfamiliar with that funding source.

Mr. Hill: — The SIF-5 funding is through NRCan [Natural Resources Canada].

Ms. A. Young: — So that's federal funding? And that's $40 million that has been committed or that SRC has applied for?

Mr. Hill: — That's $40 million that has been committed.

Ms. A. Young: — Okay. And is any component of that in kind, or that's all cash?

Mr. Hill: — That's all cash.

Ms. A. Young: — Okay. And when do those dollars start flowing?

Mr. Hill: — Those dollars will start flowing in the 2022-2023 fiscal year.

Ms. A. Young: — Perfect. And apologies, being unfamiliar with the terms of the agreement, is there a matching commitment from industry required?

Mr. Hill: — Not as far as I'm aware.

Ms. A. Young: — Okay. So it's $40 million of federal money, and that's the full envelope. Okay, thank you. How are we doing for time, Madam Chair? One minute. Thank you.

As we move forward on the SMR file, can you speak to any discussions, formal or otherwise, at this point that are under way with SaskPower?

Hon. Mr. J. Harrison: — We're having regular discussions with SaskPower, and obviously the ministers engaged in the file are regularly communicating on this as well.

But I would just say though, as the time has come to an end, that I want to thank you, Madam Chair, and members of the committee, for their time here today. And I want to thank our officials, and through officials Wanda and Ryan, to the team at SRC for the great work that they do day in and day out and the huge value that the company has brought to the people of this province over many years.

The Chair: — Thank you, Minister. So having reached our agreed-upon time for consideration of these estimates, we will adjourn consideration of the estimates for Saskatchewan Research Council. Ms. Young, if you have any closing comments you'd like to make as well.

Ms. A. Young: — Thank you, Madam Chair, to yourself, to fellow committee members, and to the minister, and as well to the officials for being present here tonight and all the work that goes into SRC in terms of moving the province forward as a leader in innovation, as well as in preparing for estimates tonight. I know it can be a lot of work and I appreciate it, all the effort that's gone on in the background on behalf of yourselves and your teams.

The Chair: — That concludes our business today, and I would ask a member to move a motion of adjournment. Mr. Francis so moved. All agreed?

Some Hon. Members: — Agreed.

The Chair: — Carried. This committee now stands adjourned until the call of the Chair.

[The committee adjourned at 16:26.]