

October 2, 2023

Executive Director's Message

SIMSA will be hosting two Roundtable events in November – BHP on the 7th and Federated Co-op on the 27th. In preparation for these we will be doing a survey on member sentiment, shop capacity, and alike. The two events and those conceptualised for early 2024, will represent billions in future spending and these survey results will be invaluable to all involved.

With Tom Kishchuk joining SIMSA, we have added a “Nuclear” section to our newsletter – see below.

Our annual Energy Forum this week has seen record ticket sales and will be our largest Energy Forum ever.

The 16th Annual Saskatchewan Mining Supply Chain Forum will take place on April 17 and 18, 2024 at Prairieland Park in Saskatoon, SK. The Sponsorship Packages are now available for review [HERE](#)

Sponsorship, booth, and ticket "On Sale" dates are:

- Sponsorships open to SIMSA members October 10
- Sponsorships open to non-SIMSA members October 16
- Booths and tickets on sale to SIMSA members November 6 (prices TBA)
- Booths and tickets on sale to non-SIMSA members November 13 (prices TBA)

The high-level 2024 MSCF Draft Agenda is:

- Tuesday, April 16
Tradeshow set up (no set up permitted on April 17)
- Wednesday, April 17
Speakers will be 8:00 - 12:00 (subject to change)
Tradeshow open 10:00 – 6:00
- Thursday, April 18
Speakers will be 8:00 - 12:00 (subject to change)
Tradeshow open 10:00 - 4:00

I will be speaking on behalf of SIMSA members on supply chain issues, at the [Canadian Renewable Energy Association](#) (CanREA) event - [Electricity Transformation Canada Annual Conference and Exhibition](#) (ETC 2023) on October 24th at the BMO Centre in Calgary, Alberta. I will note that (1) most wind turbine and solar panel components are currently made in China and this manufacturing should be brought into North America; and (2) that the electrification of all cars, home furnaces, and water

heaters, will create (i) a significant increase in the power required to each home, (ii) the potential need to replace power panels and meter sockets in several homes, (iii) the need to add stove-type power outlets on curbsides for street-parked vehicles at peoples homes, (iv) the need for significant trenching of expanded power lines and then repaving/landscaping, (v) and then farmers need huge amounts of power to run tractors, trucks, and combines with very-quick recharging at harvest time, (vi) etc. In short, I think I am more worried about supply chain issues on the distribution side than at the reactors themselves.

Member's News

[Certiably organized: Sask Polytech offers online applied project management training](#)

[New Episode of the JNE Welding #CombinedStrength Live Stream and Podcast](#)

[GREEN LIGHT | Illuminating a Greener Future with EEL Light Towers and Cross Country Canada](#)

[Brennan Miller Appointed to the Position of Chief Executive Officer at HCC Group](#)

Advocacy

SIMSA is working with others (WCB, mine owners, etc.) in an effort to add “leading indicators” - not just “lagging” indicators - to safety reporting, and adding severity Tiers to lost-time-injury reporting. The goal is to create a more balanced system.

The above initiative joins a similar effort on labour market development – “labour is infrastructure.” A third initiative will be developed given member feedback from an upcoming survey. We will also host strategy session on all three.

Kazakhstan's new Ambassador to Canada – Kussainov Dauletbek - will be attending our Energy Forum on October 4th and on October 6th will be meeting with SIMSA members who previously expressed interest in working in Kazakhstan.

In March, SIMSA hosted a significant event at PDAC with the Government of Kazakhstan, that could lead to Saskatchewan mining companies and engineering firms, open another potash basin, and thus see significant revenues flow into our supply chain. SIMSA subsequently signed MOUs with them for geological information sharing.

In August, SIMSA held an event with Kazatomprom, that could see our suppliers work in the uranium mining sector in Kazakhstan.

And, we are currently connecting with potash miners in South America to develop a network in yet another potash basin.

Nuclear

Getting Ready for the Deployment of Small Modular Reactor Technology in Saskatchewan

In August, 2023, supported by funding from Crown Investments Corporation, SIMSA hired Tom Kishchuk as its nuclear specialist. Tom will be working on maximizing the amount of Saskatchewan content for new nuclear power development in Canada and globally, especially in Saskatchewan. This content could include the engineering, manufacturing, and construction works that will be needed to site, manufacture and construct nuclear power plants. This content could also include the nuclear fuel systems that will be used as the energy source for these power plants.

For deployment of the GE Hitachi BWRX-300 technology in Saskatchewan some emerging and interesting technical aspects are as follows:

Q. What does the description “BWRX-300” mean?

A. BWRX-300 is a Boiling Water Reactor, is the 10th generation BWR design, and produces about 300 MW of electricity.

Q. The existing SaskPower generation fleet includes several steam turbine generators (located at Boundary Dam, Poplar River and Shand Power Stations) that produce about 300 MW of electricity. From an electricity generation point of view can the BWRX-300 be considered as a replacement for the existing coal units?

A. Yes.

Q. How do the major plant systems for a coal fired power plant compare to the major plant systems for a nuclear power plant

A. The major plant systems for a coal fired power plant are the coal fired boiler system, the steam turbine generator system and the instrumentation and controls system. The major plant systems for a nuclear power plant are the reactor boiler system, the steam turbine system and the instrumentation and controls system. For both types of plants, the steam turbine and generator systems, and instrumentation and controls systems are similar.

Q. What are some of the key design standards for the BWRX-300?

A. The BWRX-300 is being designed with considerations for 1) modularity (to reduce project cost and schedule, and to support quality requirements), 2) use of advanced manufacturing technologies (to reduce component cycle times and reduce component cost, 3) the proportion of the power plant that will need to be nuclear safety certified (significant portions of the BWRX-300 power plant will not require the highest levels of nuclear accreditations).

Q. How much of a BWRX-300 power plant could be manufactured in Saskatchewan?

A. Recognizing that shops in Saskatchewan have already manufactured and delivered some very large and heavy components to projects in Western Canada it is observed that from a component weight, size and materials perspective, a very significant portion of a BWRX-300 could be manufactured in Saskatchewan. Manufacturing a significant portion of a BWRX-300 power plant will also require a large workforce and large amounts of shop space.

Q. What are some of the types of components that will be required to construct a BWRX-300 nuclear power plant?

A. Major supply categories include:

- Instrumentation and control systems
- Electrical equipment
- Pressure vessels, heat exchangers, piping and tanks
- Pumps and valves
- Steam turbines, generators and auxiliary equipment
- Steel and concrete structures
- Water chemistry systems

Q. What is Technical Safety Authority of Saskatchewan (TSASK) doing to prepare to support SK manufacturers in registering designs and completing shop inspections in accordance with the applicable nuclear standards.

A. TSASK is working towards developing resources to support the manufacturing of nuclear components in Saskatchewan.

Carbon Reduction

Current emission reporting landscape for suppliers

The US Securities and Exchange Commission (SEC) has proposed a rule requiring public companies (BHP, Cameco, K+S, Mosaic, and Nutrien, included) to detail their climate-related risks, emissions, and transition plans. Link to a McKinsey & Co article [HERE](#). A significant component of this rule is the Scope 3 emissions disclosure, which includes the upstream and downstream emissions throughout a company's entire value chain. This includes emissions from both direct operations and the entire supply chain (i.e. what SIMSA members burn and what they purchase - electricity). The challenges associated with their Scope 3 (which are SIMSA members) reporting include:

- Difficulty in quantifying emissions due to the complexity of global supply chains.
- Potential issues with double counting, as the same emissions could be categorized under Scope 3 for multiple companies.
- The intricacies of gathering data from private suppliers not under SEC rules and navigating multilayered supply chains.
- Asking suppliers to take on the burden of creating a process for accounting emissions.
- No real auditing and accounting infrastructure.

The proposed rule aligns with global efforts towards standardized climate risk disclosures, with Scope 3 being a focal point due to its comprehensive coverage of a company's carbon footprint, including suppliers.

The first step for the SEC listed companies that will be affected by this rule, is to report scope 3 but in a limited fashion, for example, Company X used 100 lbs of steel, therefore their carbon output is Y tons CO₂. As we progress through the phase-in periods in the proposal – FY2024+FY2025, the demands on accuracy increase. To the point of requiring detailed reporting from private supply companies.

When should we care based upon this?:

As we currently understand it, there will be increased interest over the next few years. Here is what we know from each company:

- [BHP](#) – Have set targets to have all emissions (including suppliers) reach zero in 2050
- [Cameco](#) – Completed a preliminary Scope 3 emissions estimate following GHG Protocol guidelines and expect to refine the calculation in 2023.

- K+S – IntegrityNext seems to be the platform asking questions. Looking at 2026 before supplier emissions reporting to be mandated (in compliance with SEC and European regulations).
- Mosaic - Addressing Scope 3 emissions by engaging suppliers
- Nutrien – ISNet asking questions around what programs suppliers have surrounding emissions reduction.

Next Steps

Ultimately, scope 3 emissions reporting depends on what rules the global markets implement. It seems for now that suppliers are insulated from the requirements in the short term, but that doesn't mean that suppliers should do nothing... it just means that the conversations need to start happening now, with thoughts about what infrastructure needs to be in place for the future.

Sector News

Brian Zinchuk at www.Pipelineonline.ca does great long-form articles on Saskatchewan's energy sector and has done this for years. He attends our annual Energy Forum, is a regular on Gormley, etc. He researches and uses actual data for his stories (unlike some others).

Brian recently posted the article "[How many reactors is Saskatchewan going to build.](#)" which like all of his articles, is filled with details.

The short answer he gives to how many will be built, seems to be as high as 9 and this could include 1,000 megawatt reactors, which are larger than the 300 megawatt GE Hitachi SMRs.

In the article, after some background, Zinchuk wrote:

SaskPower president and CEO Rupen Pandya addressed Estevan City Council as part of the company's ongoing consultations, and touched on the subject in that presentation and in an interview session with the media.

Pandya told Estevan City Council the Crown corporation was looking at two small modular reactors near Estevan, and four near Elbow.

That's an increase of two units compared to the original announcement made in the spring of 2022, when SaskPower initially said it intended to build small modular reactors in this province.

. . . . Don Morgan, who was Crown Investments Corporation and SaskPower Minister until a cabinet shuffle a week or so later, said this on John Gormley Live on Aug. 22:

“Depending on availability of money, we should be looking probably at four or six,” he said, regarding building General Electric-Hitachi 300 megawatt small modular reactors (SMRs). But in the same interview, he added, “We should be probably planning for seven, eight or nine.”

. . . . And two days later, on Aug. 24, Pipeline Online asked Premier Scott Moe about Morgan’s comments on Gormley. Moe responded, “I don’t think that that number certainly hasn’t been decided on, as of yet.

. . . . {Moe continued} I won’t surmise as to what the end number would be of small modular reactors, because other are other options, and larger 1,000 megawatt reactors and such. There’s other, options that we have that can play into this as well, with some of the other generation infrastructure that we have.”

Then the story shifts:

A possibly key development in October, 2022, was Saskatchewan-based Cameco’s purchase of 49 per cent of reactor builder Westinghouse. While their reactors have not been built or designed here, buying from a Saskatchewan-owned company raises the question of “buying local,” so to speak, and Westinghouse offers 1,000 megawatt reactors, the size the premier referenced.

With regards to the possibility of large, 1,000 megawatt reactors, and why SaskPower has gone with small modular reactors of 300 megawatt capacity, Pandya said, “Right now the large reactors in Canada are around that 700 to 1,000 megawatts of generating capacity. And at present based on the 5,400 megawatt grid, that’s a little bit too large for us to integrate. We have NERC requirements that require us to have a backup generation that is equivalent to our largest generator. And so right now, our largest generators are essentially 300 megawatt generators. And so, the GE-Hitachi technology that we’ve gone through technology selection on makes sense, with respect to our current grid.

To add some clarity to the above, in the item “[Interview: Westinghouse Head of Newbuilds on AP300 and AP1000 Prospects](#)” David Durham, the president of Westinghouse’s energy systems division, sat down with Energy Intelligence’s Grace Symes on the sidelines of the World Nuclear Symposium in London, to discuss Westinghouse’s existing and potential projects.

The following are two key segments:

Q: In June, Westinghouse made headlines when it launched the AP300, your concept for a light-water small modular reactor (SMR). Four months later, what do Westinghouse’s prospects for a first-of-a-kind AP300 look like?

A: I think they look very good because the AP300 really isn’t the first of a kind. And the reason I say that is that the AP300 is a miniature AP1000. It is the exact same technology, the exact same safety basis. The AP1000 has already received regulatory approvals in the US, China and Great Britain, it’s been built, it’s operating in two different countries, five units operating and soon to be six. It’s literally many of the exact same components. So the same exact RCP [reactor coolant

pump] that goes into an AP1000 is the same exact RCP that we will put in the AP300. There's just less of them. From that perspective we're fortunate: we're not first of a kind, unlike literally every other SMR.

Q: But the design would still have to be licensed differently from the AP1000.

A: It has to be licensed. But if the regulator has already licensed the exact same technology, we're very confident that the licensing of the smaller version of the exact same technology isn't going to be a problem at all.

Upcoming Events

Register for Upcoming Events [HERE](#)

- **Saskatchewan Suppliers Energy Forum (SSEF) – October 4, 2023**
The 9th Annual Saskatchewan Suppliers Energy Forum will be on October 4, 2023 at the Delta Hotel in Regina, SK. Confirmed participants include Cenovus, Crescent Point Energy, Federated Co-operatives Limited, Cenovus, SaskPower, GE Hitachi, Westinghouse, X-energy, and the OCNI.
- **New Product and Services Needs from the Mining Industry – October 5, 2023**
SIMSA, the IMII, and the Estevan Tech Hub invite you a session to discuss the current needs in mining on October 5th at the Delta in Regina. These are needs that have not been addressed by the current supply chain.
- **Time Management for Professionals – November 2, 2023**
Facilitated by Daria Malin, CEO and Lead Strategist of Boost Strategic Coaching, this in person 1-day workshop will walk you through putting systems in place so you can focus on the things that are the best use of your time and that will bring results.

- **BHP Roundtable – November 7, 2023**
Meet with BHP personnel and executives for a day of presentations and networking. Tickets go on sale soon.
- **Federated Co-operatives Limited Roundtable – November 27, 2023**
Meet with FCL personnel and executives for a day of presentations and networking. Tickets go on sale soon.
- **Saskatchewan Mining Supply Chain Forum (MSCF) – April 17 & 18, 2024**
The 16th Annual Saskatchewan Mining Supply Chain Forum will take place on April 17 and 18, 2024 at Prairieland Park in Saskatoon, SK. Sponsorships open to SIMSA members October 10, 2023. Booths and tickets on sale to SIMSA members November 6, 2023.
- **SIMSA AGM – May 15, 2024**
Save the Date! The SIMSA AGM will be on May 15, 2024 at Prairieland Park in Saskatoon.

SIMSA Contacts

Eric Anderson

EXECUTIVE DIRECTOR

eric.anderson@simsa.ca

Keri Beebe

MANAGER OF OPERATIONS

keri.beebe@simsa.ca

James Bulmer

INDUSTRIAL CONCIERGE

james.bulmer@simsa.ca

Tom Kishchuk

NUCLEAR SPECIALIST

tom.kishchuk@simsa.ca



Saskatchewan Industrial & Mining
Suppliers Association Inc

www.simsa.ca