

April 1, 2024

## Executive Director's Message

There are already over 500 mining-company persons registered for the 2024 16<sup>th</sup> Annual Saskatchewan Mining Supply Chain Forum – we are already ahead of last year! The mining companies expect to use 11 booths this year, which 50% more than last year. Ticket sales are also tracking ahead of last year, the tradeshow is 20% larger and there will also be 25% more time for the tradeshow this year.

The event will take place on April 17 and 18, 2024 at Prairieland Park in Saskatoon, SK. The event's agenda is posted [HERE](#).

SIMSA's 2024 AGM will see us change to online voting. The nominations were still held through an email system (as before), but the actual voting process will occur via an online system this year, powered by a system provided by Saskatoon based Insigtrix.

The SIMSA AGM timelines are as follows:

- April 10, 8:00 am - Notice of AGM with ballot sent (with nominees' bios) by Insigtrix
- May 10, 9:00 am - Completed ballot submission ends
- Wednesday, May 15, at noon – AGM in Saskatoon

SIMSA will be announcing a major new benefit of membership concept at this year's AGM.

SIMSA has been focused on Sustainability since its inception in 2013 – especially from the major resource producer's and Government's perspective.

Sustainability is defined by The International Sustainability Standards Board (ISSB) in their General Sustainability-related Disclosures Standard (S1) [here](#) as:

The ability for a company to sustainably maintain resources and relationships with and manage its dependencies and impacts within its whole business ecosystem over the short, medium and long term. Sustainability is a condition for a company to access over time the resources and relationships needed (such as financial, human, and natural), ensuring their proper preservation, development, and regeneration, to achieve its goals.

They give an example [here](#) of how sustainability-related risks and opportunities affect a company's prospects as:

When a company's business model depends on a natural resource, for example, water, it is likely to be affected by changes in the quality, availability, and pricing of that resource. When a company's activities result in adverse external impacts, like harm to local communities, it could be

subjected to stricter government regulations or see its reputation damaged. When a company's business partners face significant sustainability-related risks and opportunities, the company could be exposed to related consequences.

In December 2022, the ISSB noted [here](#) that they began to evolve from the fragmented Environmental, Social, Governance (ESG) disclosure landscape, that lacked connectivity and had conflicting concepts, to a truly global common language of sustainability-related financial disclosures

SIMSA began with a focus on ensuring resource projects invest in the local supply chain, thus building a dependable long-term supplier base, that benefits the communities in which resource producers operate. Subsequently, SIMSA began aboriginal awareness training and indigenous initiatives, as well as diversity programs. Work to evolve the safety reporting systems has also begun with WCB and others.

With the addition of our Industrial Concierge role, we headed a carbon reporting and reduction initiatives, plus broader ESG reporting. We also began assisting local suppliers operate effectively and efficiently, plus become more innovative and advanced. Recently, our Nuclear Specialist began work towards our local supply chain participating in an energy transition towards nuclear power. Our most current initiative is to see grade-school and higher-level students become engaged in the sector.

SIMSA's sustainability work in the supply chain, better enables our major resource producers to thus produce more sustainably.

SIMSA's vision for the future is to pull all of this together.

# Member's News

[RAYHAWK Digital Smarts, Mechanical Dexterity and Autonomy](#)

["What to Wear When Working in a Mine" by 1222 Apparel Corp.](#)

[Kilowatt Cup - April 27, 2024 — Team Power Solutions](#)

## Advocacy

SIMSA has been quietly leading an initiative with WCB and other persons, to advance leading indicators and fairness in the bidding process that we believe will improve health and safety significantly. As you know, as part of contractor management programs many buyers use safety registries and WCB data to evaluate contractors. The focus is on improving safety in the supply chain

Part of this contractor management process relies on lagging indicators, which can create challenges for contractors and buyers. In addition, recent research also suggests that lagging indicators such as the total recordable injury rate (TRIR) should not be used as the primary safety metric when comparing or prequalifying contractors.

As a result, we have a shared goal to:

1. Change how we are using the lagging health and safety data today, and
2. Shift the conversation to leading health and safety indicators.

We believe this approach will raise the bar for safety in the province and improve fairness of bidding requirements.

This may include:

- Collecting and reviewing self-reported information from contractors and suppliers,
- Benchmarking contractor performance,
- Assessing internal and regulatory compliance requirements, and
- Measuring industry and operational key performance indicators.

The initiative began with exploratory conversations with major mining companies. As that conversation progresses to next steps, it is also now bridging into safety associations.

SIMSA's Nuclear Specialist Tom Kishchuk and Executive Director Eric Anderson, spoke with Minister of PrairiesCan Dan Vandale and DM Alastair MacFadden, on March 13 at nuclear roundtable event (see photo below). We presented our members' concerns and need for funding to de-risk supply chain development.



# Nuclear

## Nuclear Fuel 101 – Milling to Conversion

### Milling

- Uranium ore is rock that has elevated amounts of uranium in it
- The ore is initially mixed with water so that it can be moved through a mill circuit
- The uranium is separated from other minerals in the ore using an acid solvent
- The uranium is now in a solution and is purified using a solvent extraction process
- The uranium is then returned to a solid form using a chemical precipitation process and then dried
- The resulting powder is uranium oxide concentrate, commonly referred to as yellowcake
- The yellowcake product is shipped in steel drums to a refinery

### Refining

- The yellowcake product is refined using a series of chemical processes including digestion, solvent extraction and denitration. These refinement processes produce high-purity uranium trioxide ( $\text{UO}_3$ )
- The  $\text{UO}_3$  is the feedstock for the conversion process and can be transported in totes to a conversion facility

### Conversion

- Nuclear power reactors typically use one of two types of fuels; natural uranium and enriched uranium
- Candu reactors, which are heavy water reactors, use natural uranium at 0.7%  $\text{U}_{235}$ , in the form of  $\text{UO}_2$  fuel pellets
- Heavy water is deuterium oxide ( $\text{D}_2\text{O}$ ) and is used as a coolant and moderator in Candu reactors
- Light water reactors use uranium that has typically been enriched to between 3% and 5%  $\text{U}_{235}$  and use normal water as a coolant and moderator
- The uranium conversion process for heavy water reactors changes  $\text{UO}_3$  to  $\text{UO}_2$ . Nitric acid and ammonia are added to the  $\text{UO}_3$  which is then fed into a kiln operating in a reduction atmosphere. The output product from the kiln is ceramic grade  $\text{UO}_2$  powder that can then be sintered into pellets for use in fuel bundle assemblies
- For light water reactors the  $\text{UO}_3$  is converted into uranium hexafluoride ( $\text{UF}_6$ ) by combining the  $\text{UO}_3$  with fluorine compounds
- Material in the form of  $\text{UF}_6$  is suitable for enrichment.  $\text{UF}_6$  can exist as a gas, liquid or a solid depending on pressure and temperature
- The  $\text{UF}_6$  is transported to enrichment facilities by filling transport containers with liquid  $\text{UF}_6$  which then solidifies within the containers
- The  $\text{UF}_6$  remains in solid form in the containers at normal atmospheric pressure and temperature below  $57^\circ\text{C}$

## References

[Cameco U101 - Glossary of Terms](#)

[Cameco U101 - Milling](#)

[Cameco U101 - Refining & Conversion](#)

[Mining and Milling \(orano.group\)](#)

# Industrial Concierge Update

## ESG in Mining: What matters and what doesn't?

Over 50 people joined SIMSA and Karri Howlett at the two sustainability workshops on March 26<sup>th</sup> and 27<sup>th</sup> in the Saskatoon Club:

1. [Group 1](#): Construction, Engineering, and Professional Services on March 26th
2. [Group 2](#): Manufacturing, Fabrication, and Distribution on March 27th

In the evolving landscape of mining and industrial sectors, the importance of Environmental, Social, and Governance (ESG) is becoming increasingly evident. Buyers are beginning to seek ESG information from suppliers during the procurement process.

These sessions, led by Karri Howlett, were tailored to empower members in crafting and sharing sustainability information that resonates with buyers.



*Karri Howlett*



They were structured to provide a comprehensive overview of the ESG process, offer essential tools, and guide members in implementing a robust ESG strategy and reporting mechanism within their businesses.

A major component of the workshops was understanding what was important to your stakeholders, and what was not. Allowing members to craft simple, tailored strategies to help their businesses remain competitive and long lasting.

SIMSA is committed to supporting members throughout their ESG journey, offering resources and guidance at every step as a part of your membership dues.

### **About Karri Howlett**

Karri Howlett is President of Karri Howlett Consulting. Karri provides ESG, financial strategy, and quantitative risk assessment consulting as well as helping companies prepare for ownership transition or new investment. Karri was previously President of RESPEC Consulting Inc., which is an employee-owned geoscience and engineering consulting company based in Saskatoon, Saskatchewan, and led the acquisition of the previous company in 2009, followed by the subsequent sale to RESPEC in 2016. She currently sits on the Boards of NexGen Energy (as Chair of the Sustainability Committee), Gold Royalty (as Chair of the ESG Committee), March Consulting, and the University of Regina Board of Governors.

## Sector News

On March 14 it was released that work towards the West Side Irrigation project is moving ahead.

I asked the Water Security Agency what the next steps will be. They replied:

The immediate next steps are to issue an RFP for engineering services to continue advancing the design of the initial phase of the project. As that progresses, it is expected that there will be market soundings with the construction and supply industry prior to those procurements being issued to gather input on how this project can best be delivered. We will work to keep yourselves and industry informed and engaged as we move forward on defining the needs of the initial stage of this project.

The project news itself from [HERE](#) included:

. . . the Government of Saskatchewan is moving forward with constructing the early works of the first 90,000 acres of the Lake Diefenbaker Irrigation Project. The total cost is estimated to be \$1.15 billion which will be shared between the provincial government and producers who

choose to participate in the project.

“Our government is happy to take the first major step in creating the most sustainable food and economic security project in Canada which will create major benefits for generations,” Moe said. “Saskatchewan can be a leader across the country and move this project forward which will provide billions in economic benefits and thousands of jobs.”

The engineering, design and engagement with stakeholders and Indigenous rights holders is expected to be done over the next 12 to 14 months, with major construction of the 90,000 acres being targeted for 2025.

"Saskatchewan has an amazing food security story to tell," Agriculture Minister and Minister Responsible for the Water Security Agency David Marit said. "Since 2020, over 58,000 acres of irrigation have been developed, which is the largest growth since the early 1980s. The Lake Diefenbaker Irrigation Project will position Saskatchewan to meet the needs of a growing population across the globe. We continue to encourage the federal government to come to the table in a more meaningful way and be part of this important project as it moves forward."

"Today marks an important point in our history for rural municipalities, SARM applauds the provincial government for moving this project ahead and ensuring future generations of rural residents will experience the benefits," SARM President Ray Orb said. "This is the start of a journey to bring Saskatchewan and Canada much-needed food and economic security."

By 2050, the world's population is expected to increase by nearly two billion people, from eight billion to close to 10 billion. This means global food production must increase by 70 per cent to meet this demand.

"Irrigation expansion across Saskatchewan will be essential to move our province forward into the future." Saskatchewan Irrigation Projects Association Chairman Aaron Gray said. "Irrigators in this province are committed to helping feed the world and create significant benefits for the people of Saskatchewan."

For more information on the Lake Diefenbaker Irrigation Project, visit <https://diefenbakerirrigation.ca/>.



# Upcoming Events

Register for Upcoming Events [HERE](#)

- **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.
- **SIMSA AGM – May 15, 2024**  
The SIMSA AGM will be on May 15, 2024 at Prairieland Park in Saskatoon.
- **Lunch & Learn: Saskatchewan Research Council (SRC) – May 31, 2024**  
Find out more about who SRC is and the interesting projects and services they have been involved with over their more than 75-year history.
- **BHP Roundtable – September 25, 2024**  
Save the Date! SIMSA's BHP Roundtable will be on September 25, 2024 at Prairieland Park in Saskatoon.
- **Saskatchewan Suppliers Energy Forum (SSEF) – October 2, 2024**  
Save the Date! The 10th Annual Saskatchewan Suppliers Energy Forum will be on October 2, 2024 at the Delta Hotel in Regina.

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