

THE PROFESSIONAL



EDGE

ISSUE 140, SEPTEMBER/OCTOBER 2012



Potash

Do you have strong financial support?

Find out how the Engineers Canada-sponsored insurance plans can help.

4 common life insurance mistakes

1. Not having enough coverage.

If you're underinsured, the coverage you have would fall short of what your family would need to maintain their standard of living if something happened to you.

2. Forgetting the long term.

Consider how long the benefit amount should support your dependants. For example, if your mortgage will take 15 more years to pay down, your coverage should be enough to last all those years.

3. Buying the wrong kind of life insurance.

When cost is an issue, term life insurance may best fit both your needs and budget. Lower premiums allow you to buy more coverage than you could otherwise afford on a limited budget.

4. Not exploring all savings options.

Professional associations offer group rates and rate reductions for higher coverage amounts. *Are you making the most of these membership advantages?*

Get customized recommendations on how you can avoid these mistakes.

Go to mylifeinsuranceneeds.ca to create your free online insurance guide today.

Bridge spanning the Saskatchewan River near Outlook.

PRECISELY PLANNED. STRUCTURALLY SOUND.

Term Life Plan | Major Accident Protection | Disability Income Replacement | Health & Dental Care | Critical Illness

manulife.com/PE

1-877-598-2273 (Monday-Friday, 8 a.m. to 8 p.m. ET)

Sponsored by:



Engineers Canada is the business name of the Canadian Council of Professional Engineers



Underwritten by The Manufacturers Life Insurance Company. Manulife, Manulife Financial, the Manulife Financial For Your Future logo and the Block Design are trademarks of The Manufacturers Life Insurance Company and are used by it, and by its affiliates under license.

The Professional Edge Committee

Grant Guenther, P.Eng., FEC (Chair)
 Ben Boots, P.Eng., FEC
 Kwei Quaye, P.Eng.
 John Masich, P.Eng.
 Lisa White, P.Eng.
 James Gates, P.Eng.
 Gillian Ash Richard, P.Eng.
 Ken Linnen, P.Eng.
 Zahra Darzi, P.Eng.
 John Styles, P.Eng. (Liaison Councillor)
 Rajeev Chadha, P.Eng.
 Brent Marjerison, P.Eng., FEC
 Jeanette Gelletta, Engineer-in-Training

Staff Advisor

Chris Wimmer, P.Eng.

Councillors Elected by Membership

Leon Botham, P.Eng. - President
 Dwayne Gelowitz, P.Eng., FEC - President-Elect
 Andrew Loken, P.Eng., FEC - Vice-President
 Peter J. Jackson, P.Eng., FEC - Past President
 Doug Drever, P.Eng., FEC - Group I (Civil)
 Andrew R. Lockwood, P.Eng., P.Eng., FEC - Group II
 (Mechanical & Industrial)
 Margaret Anne Hodges, P.Eng., FEC - Group III
 (Electrical & Engineering Physics)
 John Styles, P.Eng. - Group IV
 (Geology, Mining, Petroleum, Geophysics & Geoscientists)
 Robert Cochran, P.Eng. - Group V (Agriculture & Forestry)
 Tara Zrymiak, P.Eng. - Group VI (Chemical, Ceramic, Metallurgical)
 Larry Lechner, P.Eng. - Group VII (Environmental)
 Robert Stables, P.Eng. - South-East District
 Ben Boots, P.Eng., FEC - South-West District
 Terrance A. Fonstad, P.Eng. - North District
 Mark Wittrup, P.Eng., P.Geo. - Geoscience South District
 John G. Pearson, P.Geo. - Geoscience North District
 Penelope K. Semczyszyn, Engineer-In-Training - Members-In-Training

Councillors Appointed by Lieutenant-Governor-in-Council

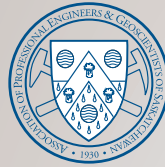
Deb Rolfes - Saskatoon
 Monte Gorchinski, CA - Saskatoon

Chairs, Boards and Committees

Leon Botham, P.Eng. - Executive Committee
 Doug Kelly, P.Eng. - Discipline
 John Fahlman, P.Eng., P.Geo. - Investigation
 Rick Kullman, P.Eng., FEC - Engineers Canada Director
 Sandra Foster, P.Geo., FEC (Hon.) - Geoscientists Canada Director
 Leon Botham, P.Eng. - Governance Board
 Dan Bonnet, P.Eng. - Experience Review
 Kevin McCullum, P.Eng. - Academic Review
 Tim Heisler, P.Eng. - Professional Practice Exam
 Darryl Andrew, P.Eng. - Licensee Admissions
 Myron Herasymuk, P.Eng., FEC - Legislative Liaison
 Dwayne Gelowitz, P.Eng., FEC - Image and Identity Board
 Shawna Argue, P.Eng., FEC - Awards
 Kristin Bogdan, P.Geo. - Connection and Involvement
 Grant Guenther, P.Eng., FEC - Professional Edge
 Gillian Ash Richard, P.Eng. - Communications and Public Relations
 Stormy Holmes, P.Eng., FEC - Equity and Diversity
 Andrew Loken, P.Eng., FEC - Education Board
 Wes Kotyk, P.Eng. - Environment and Sustainability
 Doug Thomson, P.Eng. - Professional Development
 Stephanie Campbell, Engineer-In-Training - Student Development
 Kevin Hudson, P.Eng. - K-12

Staff

Dennis Paddock, P.Eng., FEC, FCSSE, FCAE - Executive Director & Registrar
 Bob McDonald, P.Eng., FEC, LL.B. - Director of Membership & Legal Services
 Chris Wimmer, P.Eng. - Director of Professional Standards
 Tina Maki, P.Eng., FEC - Director of Registration
 Kate MacLachlan, P.Geo. - Director of Academic Review
 Patti Kindred, P.Eng., FEC - Director of Education and Compliance
 Barbara Lakeman, FEC (Hon.) - Manager, Finance and Operations
 Erin Beare - Registration Assistant
 Alex Chabun - Registration Assistant
 Erin Poworsky - Administrative Assistant
 Angela Foster - Administrative Assistant
 Judi Peters - Administrative Assistant
 Toni Cruickshank - Administrative Assistant
 Carli Pichette - Administrative Assistant



Achieving a Safe and Prosperous Future through Engineering and Geoscience

Editorial provided by:

Martin Charlton Communications
 #300 - 1914 Hamilton Street, Regina, Saskatchewan S4P 3N6
 Tel: (306) 584-1000, Fax: (306) 584-5111, Email: marylynn@martincharlton.ca

Editor:

Lyle Hewitt, Director of Message, Martin Charlton Communications
 Email: lyle@martincharlton.ca

Design and Layout:

Jo Anne Lauder Publishing & Design, Tel: (306) 522-8461, Email: jlauder@accesscomm.ca

Opinions expressed in signed contributions are those of the individual authors only, and the Association accepts no responsibility for them. The Association reserves the right to make the usual editorial changes in manuscripts accepted for publication, including such revisions as are necessary to ensure correctness of grammar and spelling. The Association also reserves the right to refuse or withdraw acceptance from or delay publication of any manuscript. SSN 0841-6427

Submissions to:

The Professional Edge Editorial Committee
 Suite 104, 2255 - 13th Avenue, Regina, Saskatchewan S4P 0V6
 Tel: (306) 525-9547 or Toll Free: 1-800-500-9547 Fax: (306) 525-0851
 Material is Copyright. Articles appearing in *The Professional Edge* may be reprinted, provided the following credit is given: Reprinted from *The Professional Edge* - Association of Professional Engineers and Geoscientists of Saskatchewan, (issue no.), (year).

POSTMASTER

Return undeliverable copies to: *The Professional Edge*,
 APEGS, #104, 2255 - 13th Avenue, Regina, Saskatchewan S4P 0V6

Advertising in *The Professional Edge*

It pays to advertise in *The Professional Edge*. You reach 5,000 P.Engs, P.Geos, Engineers-in-Training and Geoscientists-in-Training in Saskatchewan and 5,000 others outside Saskatchewan.

Advertising Rates and Mechanical Requirements

Advertising Rate, per dimensions (width x height) insertion. Colour as published. Film or electronic files. Electronic art must be at least 300 dpi in a JPEG, TIFF or EPS format.

COVERS		1x	3x	6x
Outside Back:		\$1,500	\$1,250	\$1,100
Inside Front/Back:		\$1,200	\$1,000	\$900
PAGES		1x	3x	6x
Full page	8 x 10 ^{1/2}	\$1,000	\$900	\$825
2/3 page	5 ^{1/4} x 10 ^{1/2}	\$800	\$700	\$625
2/3 page	8 x 7	\$800	\$700	\$625
1/2 page	8 x 5	\$700	\$600	\$525
1/3 page	2 ^{1/2} x 10 ^{1/2}	\$600	\$525	\$450
1/3 page	5 x 5	\$600	\$525	\$450
1/3 page	8 x 3 ^{1/2}	\$600	\$525	\$450
1/6 page	2 ^{1/2} x 5	\$300	\$275	\$250
Bus. Card	3 ^{1/2} x 2	\$150	\$125	\$100

* Applicable GST/HST will be added to advertising rates.

Submission Deadlines

NOVEMBER/DECEMBER 2012: November 1, 2012 JANUARY/FEBRUARY 2013: January 1, 2013

Subscription Rates*

Members and Licensees - Free. Others in Saskatchewan - \$12/year. Elsewhere - \$20/year.

Table of Contents

ISSUE 140
SEPTEMBER/OCTOBER 2012

-
- 05** President's Report
-
- 14** Member Profile
-
- 15** APEGS View
-
- 27** News Beyond Our Borders
-
- 29** Celebrating Our Own
-
- 30** Making A Difference
-
- 31** News From The Field
-
- 36** Calendar of Events
-

On the Cover



Mosaic Esterhazy Mine

PHOTO COURTESY MOSAIC POTASH



8 The New “Gold” Rush: Potash!

BY MARTIN CHARLTON COMMUNICATIONS WITH SOURCES FROM THE SASKATCHEWAN MINING JOURNAL"



13 Bin Safety: A Wake-Up Call

BY MARTIN CHARLTON COMMUNICATIONS

President's Report



As summer comes to a close, I have to reflect back over the first few months of my term as president of APEGs and remember how fortunate I am to live in Saskatchewan at this time of unprecedented economic growth for our province. It wasn't that long ago that Saskatchewan was on the list of "have not" provinces that relied on transfer payments from Ottawa in order to maintain basic government services.

Over the past few years, we have all watched the province turn the corner to become one of the economic growth leaders, not only in Canada, but around the globe. I remember when I moved back to Saskatoon from Toronto in 1999, my friends and colleagues asked the question: "Why return to Saskatchewan when there is so little happening? All the activity is in central Canada or Alberta."

A large part of the growth has come on the back of our resource industry. As a province, we have seen unprecedented growth in the mining and the oil and gas industries. As well, the agricultural sector in the province is looking to have one of the best years ever. As a result of this growth, the population of the province has also grown to record numbers.

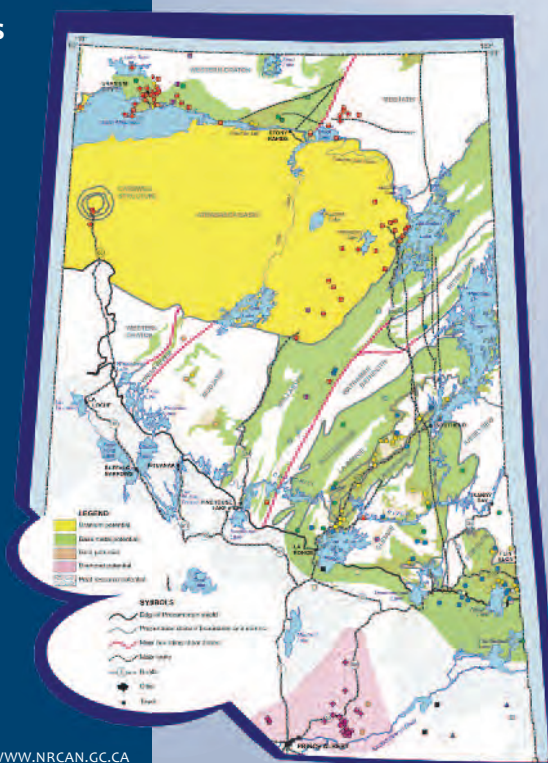
With the growth comes stress on the system. In Saskatoon and Regina, new subdivisions are being sold out in record time. In smaller communities close to some of the proposed natural resource developments, people are snapping up available houses in hopes of turning a profit when construction proceeds on the projects. In other cases, the communities are developing their own new subdivisions.

With this economic and population growth comes the need for new or upgraded infrastructure to meet the demands for clean water, sanitation, education, power distribution and telecommunications. The critical infrastructure in many of our communities is being pushed to the limits of its design capacity.

Our professions are being asked to do more to maintain the existing infrastructure while designing new infrastructure that will be required to meet the needs of a growing population. Our professions are in

greater demand to meet the needs of the companies who are developing mega projects—the projects that will help keep the economy moving forward.

We are seeing more companies investing in Saskatchewan and we are seeing more engineers and geoscientists registering with our Association, which again is taxing the system. Our Association membership has almost doubled to nearly 10,000 members in the past few years. The number of new members registering continues at similar rates to the past few years. About 50 per cent of our members are resident outside of Saskatchewan.



Over my time as president, I have had the opportunity to travel for a number of events to represent our association and I have spent some time travelling for my day job.

At various events for APEGS, it has become evident that we are very fortunate indeed to be living in Saskatchewan. While the economy in other parts of the country is still struggling to get back to pre-recession levels, we barely saw a blip.

At the PNWER (Pacific NorthWest Economic Region) Summit held in Saskatoon in July, it was evident that our friends south of the border are struggling as well with slow economic growth and high unemployment. We in Saskatchewan are looking to keep up with the growth, while in other parts of North America it is a struggle to find the funds to maintain vital infrastructure. But it is also evident that our professions are up for the challenge.


On a recent trip to Laos, I was reminded how fortunate we are to have all of the basics of life such as clean drinking water and proper sanitation. We also don't have to deal

with living in a war zone. In Indonesia, engineers have to deal with an explosion of vehicles on the roads.

Regardless of where we are, though, engineers and geoscientists continue to improve the quality of life for residents through the provision of basic infrastructure. We continue to provide economic growth opportunities through responsible resource development.

Engineers and geoscientists have much to be proud of. We must continue to promote our accomplishments as drivers of improved quality of life while also protecting the health and safety of the public and the environment. This is one way we will ensure the sustainability of our professions.


Leon C. Botham, P.Eng.
President



EPIC Educational Program Innovations Center

5670 McAdam Road, Mississauga, ON L4Z 1T2 • Toll Free: 1-888-374-2338
Fax: 1-800-866-6343 • Email: epic@epic-edu.com



www.epic-edu.com/pr



Upcoming Course Schedule	PDHs*	Location	2012			2013		
			Nov	Feb	Mar	Nov	Feb	Mar
Civil								
Achieving Water Quality Standards By Effective Stormwater Management	12	Regina						11-12
Electrical								
Applications of Power Capacitors in the Operation of Electrical Equipment and Systems	18	Winnipeg						6-8
Environmental								
Small Communal Wastewater Treatment Systems	12	Regina				21-22		
Understanding Environmental Regulations	17	Regina				25-27		
Mechanical								
Fundamentals, Sizing, Selection, and Operation of HVAC Systems	18	Winnipeg	12-14					
Design of HVAC Systems	18	Winnipeg						4-6
Mechanical Engineering for Non-Mechanical Engineers	30	Winnipeg						11-15
Industrial Piping and Associated Equipment	18	Winnipeg						18-20

PDHs* : Continuing professional education for licensed engineers is measured in Professional Development Hours (PDHs). A PDH is one contact hour of instruction or presentation.

EPIC On-Site Program, Where and When it's Convenient for You
Invest in your staff to become future corporate leaders.
Contact Tim Chugh at: 1-888-374-2338 ext 242 or tchugh@epic-edu.com for more information.

CALL FOR EXPRESSION OF INTEREST

Technical Presentations

APEGS invites Expressions of Interest for presenters to give technical presentations at the 2013 APEGS Annual Meeting on Friday May 3th, 2013 in Regina. Track sessions are scheduled for 45 minutes, allowing for a 40-minute presentation and five minutes of questions and answers. Submissions should include an engineering or geoscience component.

Your Expression of Interest should contain the title of your presentation and a maximum 100-word description. The submission may be used to describe the content of your presentation in the professional development day program.

Forward your submission to Chris Wimmer, P.Eng., cwimmer@apegs.sk.ca no later than November 30, 2012. For additional information contact Chris Wimmer at (306) 525-9547 or 1 800 500-9547 (North America).

TERMS AND CONDITIONS

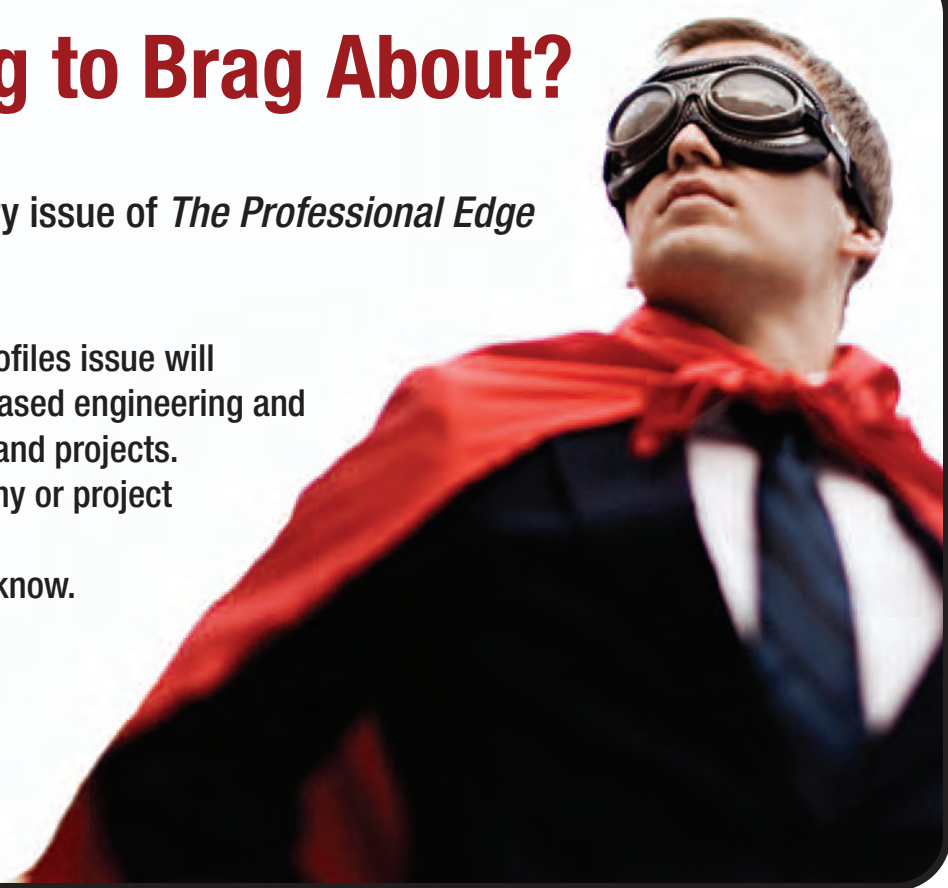
All submissions will be subject to review by the APEGS Annual Meeting Planning Committee. If selected for the conference, authors are authorizing publication of their submission in the conference program and of their final presentation published electronically.

Something to Brag About?

The January-February issue of *The Professional Edge* is all about you!

Our annual Company Profiles issue will profile Saskatchewan-based engineering and geoscience companies and projects. If you want your company or project profiled or would like to recommend one, let us know.

Please contact:
Professional Edge editor
Lyle Hewitt @
lyle@martincharlton.ca



The New “Gold” Rush: Potash!

BY MARTIN CHARLTON COMMUNICATIONS WITH SOURCES FROM THE SASKATCHEWAN MINING JOURNAL"



WWW.CPR.CA

The old Klondike gold rush has nothing on modern day Saskatchewan. In the face of a nearly insatiable world appetite for our province’s potash, companies large and small from near and far are rushing to stake a claim on what may be the 21st century’s most valuable mineral.

Conventional underground mines. Solution mines. Old mines expanded. New mines where no one previously thought to look before. Potash mines of every shape and size are being mapped out all over the province – although some exist only in the hopes and dreams of their promoters.

Canpotex estimates that over 60 new potash projects are currently being evaluated around the world, many of them in Saskatchewan. In Saskatchewan just as anywhere, building a mine is an expensive, risky but potentially very profitable venture. It involves billions of dollars of investment and hundreds – in some cases thousands – of skilled jobs. If even a fraction of these prospects come to fruition, they could significantly reshape not only the Saskatchewan resource sector but the province as a whole.

A Hungry Planet

The factor driving the potash mania lies literally right under your nose: your mouth – and the mouths of everyone else on an increasingly hungry planet.

According to UN estimates, the world population is expected to rise to 9.2 billion by 2050. This will not only mean more mouths to feed but it will also create an



inverse relationship with the agricultural industry. The larger the population, the less land will be available for agricultural production.

This will require a dramatic increase in high-intensity farming that will require more and more potash-based fertilizers. As well, the rising middle class in high-population countries like China and India is increasingly demanding, and able to afford, more meat and dairy in their diets.

“The single driving factor for our industry is food. Population growth and demand for higher quality food means farmers need to get more food out of less land. They will have to do that with fertilizer,” says Peter Jackson, P.Eng., Vice President of Operations for Mosaic. “We are going to need a lot of fertilizer, and we are going to need it soon.”

“The last big pushes in potash development were in the 1970s and 1980s. It took until now for that capacity to be used up by demand. Now demand is growing by 3 to 4 per cent compounded annually,” says Jackson.

The province is believed to be home to roughly half of the world’s reserves of the mineral and is currently responsible for 30 per cent of its supply. Scientists estimate that Saskatchewan’s potash resources are adequate to meet world supply for several hundred years.

The problem isn’t quantity – it’s time. Putting a mine into production can take a decade or more (although solution mines can take as little as five years). The result has been a scramble among companies to find shortcuts to ramp up potash production sooner.

“It’s going to be a competitive industry to be in. The company that can produce the highest quality product and that delivers on time will succeed,” says Jackson.

Getting Crowded

Jackson’s prediction of tough competition is borne out by the sheer number of new potash players in the province. Although many of these are purely speculative, others are bringing significant investment dollars into the province to explore completely new or “greenfield” mine prospects.

At the same time, established Saskatchewan potash miners – PotashCorp, Mosaic and Agrium – have major “brownfield” (existing facility) expansions either completed or under way.

But no matter whether building a new mine or refurbishing an old one, developers are faced with many challenges. Potash mines are among the largest and most technologically complex megaprojects on the planet.



According to UN estimates, the world population is expected to rise to 9.2 billion by 2050. This will not only mean more mouths to feed but it will also create an inverse relationship with the agricultural industry. The larger the population, the less land will be available for agricultural production.

King of the Hill

The Potash Corporation of Saskatchewan remains the top potash producer in the world and is not about to get knocked off its perch any time soon. The company has an aggressive program of expansion underway.

“We are pretty much done our Cory expansion which adds a million tonnes to our annual capacity. Last summer, we had an extended summer shutdown to complete the Allan debottlenecking, which added another million tonnes. Our Rocanville expansion is on track to be complete in 2014 to add a further 2.7 million tonnes of annual production,” said Mike Hogan, P.Eng., Senior Vice-President of PCS Potash.

The projects on PCS’s agenda are no mere fixer-upper projects. The investment levels are staggering by any standard: Over \$770 million for the Allan project, \$1.6 billion for Cory and \$2.8 billion for Rocanville.



WWW.FORTISCORPORATION.COM

“The scale of these investments in Saskatchewan is pretty amazing to consider. We calculated that, during our expansion program, we will spend about \$6,000 for every man, woman and child in the province,” Hogan said.

“The scale of these investments in Saskatchewan is pretty amazing to consider. We calculated that, during our expansion program, we will spend about \$6,000 for every man, woman and child in the province,” Hogan said.

A Special K

Mosaic’s plans are to boost production by 50 per cent by 2021. Much of this is focused on expanding capacity at its existing sites including the well-known Esterhazy K1 and K2. But soon there will be another K to add to the Mosaic family – the K3 shaft currently under construction.

The Mosaic website boasts that the K3 headframe will be the “tallest structure between Calgary and Winnipeg.” The shaft is expected to add another 1 million tonnes per year to the company’s production.

Although technically a brownfield site, it will have much the same effect as building an entirely new mine at a fraction of the cost. The company is avoiding building a new mill by expanding the ore milling capacity of the K2 mine.

VAULT Ahead

One doesn’t hear engineers use superlatives like “ultimate” too often, but Alex Watson, P.Eng., project director of Agrium’s Project VAULT (VANcoy ULTimate expansion) has little trouble standing by the choice of the term.

“The ‘ultimate’ description comes from the fact that our goal is to increase production out of our existing Vanscoy shafts to the point where you would have to sink another shaft to get any more incremental production,” says Watson.

The plans include dramatically increasing the hoisting capacity of the mine to allow the company to haul the maximum amount of ore possible out of the mine. The expansion, which is expected to be complete by 2015, is expected to add an average of one million tonnes of annual potash productive capacity to the mine.

The New Kids On The Block

While the established miners get the most attention for their expansion ventures, they are clearly not the only ones in the game. BHP Billiton continues to garner headlines, even when it does nothing. The company recently made the news for avoiding making an immediate decision about the status of its Jansen project. This was taken as good news by pundits who had expected it to scale the project back.

German fertilizer king K+S Group first made headlines in Saskatchewan with its friendly takeover of Moose Jaw-area explorer Potash One. More recently, the company claimed the bragging rights of having broken ground on the first new potash mine in over 40 years.

K+S’s focus is on a solution mine to be built at the Legacy project where it put shovels into the ground this summer.

“Preliminary earth and roadwork was started in 2011 to facilitate site access and prepare for major earthwork. Detailed engineering has begun with AMEC Americas. Major site earthworks construction is under way, marking the beginning of true construction at the site,” said K+S corporate spokesman Michael Wudonig.

The company expects to invest \$3.25 billion in order to bring the mine into production by 2015. It projects the mine will hit the 2-million-tonne-per-year mark by 2017.

Labour Pains

When looking to current or upcoming challenges in building a mine in Saskatchewan, all of the developers face the same problem: where to find workers in a province that already experiences labour shortages.



When looking to current or upcoming challenges in building a mine in Saskatchewan, all of the developers face the same problem: where to find workers in a province that already experiences labour shortages.

BHP Billiton recently announced plans to build a temporary town near its Jansen project, capable of housing the 2,500 or more workers needed to build the mine. Now it only needs to find the people to fill it.

“We’ve hired a few hundred people locally or through construction firms. We are working with the Aboriginal community and the other surrounding communities but we are not going to get to 2,500 that way. We are going to have to work with the provincial government on a more holistic approach to the labour problem that includes expanded training opportunities and targeted immigration policies. Those are things we as a company can’t do that we would have look to the government to do,” said company spokesman Chris Ryder.

For PotashCorp, the labour issues have not been so much about finding sources but rather about managing training.

“We’ve found there is still a lot of capacity in the labour markets in Canada and other nearby areas. Other parts of Canada and the US are facing downturns so there are actually a lot of skilled workers looking for work. When you look at where this province has come from, it is pretty amazing to hear stories about people from places like Ontario, Boston and Detroit eager to come here to work,” says Hogan.

“What we have found, though, is that we have to manage the job growth. You can’t just complete a major expansion and expect 200 new workers to show up the next day. Instead, we’ll recruit 80 or so people this year, take our time to make sure they are trained properly and introduced to our safety culture, and then next year we will do the same so that when new facilities are ready to open up we’ll have a fully trained workforce ready to go.”

Agrium likewise is taking a methodical approach to its labour needs.

“Our site manpower right now is over 1,000 and will continue to increase. To date, we have not had serious problems finding workers. About 70 per cent are from Western Canada. A small contingent is made up of temporary foreign workers. Our preference is always local first, then Canadian and then foreign labour only as a last resort,” says Watson.

“The real skilled labour issues will come when we get down to putting in the piping, mechanical, electrical and instrumentation. Those will come up in 2013. We’ll approach that with the same strategies we’ve used so far through shift schedules, travel allowances, living allowances and the like. Flexibility and making your project the project of choice is the key to the game.”



The Solution is the Problem

Labour costs are a special concern for conventional mines that not only require a lot of people to build them but also need a large contingent of highly skilled workers and heavy machinery to operate.

Solution mines have a much easier time of it on this score. Instead of sending workers and machinery to dig minerals out of the ground, solution mines pump a mine shaft full of liquid and distill the dissolved mineral when the liquid is pumped to the surface. Few if any workers go underground once the shaft is sunk, meaning much lower labour costs.

But there is a trade-off. What solution mines lose in labour worries, they gain in other hurdles. Chief among these is access to water. Finding a large source of water close to a potash source can be a tricky coincidence on the dry

prairies. As well, proponents would face extensive environmental review and potential resistance from nearby residents worried about their local water supply.

Some companies have found innovative approaches to the challenge. Western Potash, which is looking to develop a solution mine near Regina, has reached a memorandum of understanding with the City of Regina to use its treated effluent in a solution mine.

“The effluent was previously dumped in the Wascana Creek. By reducing the nitrogen load, we are actually going to be improving the health of river. Plus, unlike some of our competitors, we would continue to be able to get water supply even in drought conditions,” said John Costigan, Vice President of Corporate Development for Western Potash.

Tech Talk

The solution miners aren’t the only ones hunting for new technologies. Throughout the industry, engineers and accountants alike are brainstorming to squeeze efficiencies wherever they can.

“This is an expensive business so success will go to the outfit that can keep its costs the lowest. Solution mines, operations that can keep labour and other costs down, those probably have a better chance. Anyone who can find a better technology or an innovative approach to reduce costs or risks – those will be the companies that will have the edge,” says Costigan.

Predictably, the industry has seen an increasing amount of automation.

“Shaft mining will never be a totally automated process. When you’re running the first pass, there is still a lot of art and skill involved that requires the human operator. But when you are running second and third passes, the human is really just there for maintenance. We have those parts of the operation set so that the machines are on automatic during shift changes,” says Jackson.

Focus on the Long Term

While the hunt for bigger, better potash production continues in the mining world, casual observers in the general public might be tempted to think that the potash news of the past year has more hype than substance. Rumours circulated in the business press that BHP Billiton planned to shelve its Jansen project – a claim the company vigorously denies. Western Potash faced difficulties securing financing from Chinese investors. Vale recently announced that its potash project planned for the Regina area was temporarily on hold. And Potash Corp, in the midst of its expansion project, cut back on production from its Lanigan site.



“This is an expensive business so success will go to the outfit that can keep its costs the lowest. Solution mines, operations that can keep labour and other costs down, those probably have a better chance. Anyone who can find a better technology or an innovative approach to reduce costs or risks – those will be the companies that will have the edge,” says Costigan.

Jackson isn’t surprised to see some of the recent proposals dropping off.

“They see that the established companies can bring on more capacity. They also see Russia bring on more capacity. Some of our big customers like China are making noises about becoming self-reliant in potash. All of that means that some of the newer players or more marginal players are going to lose confidence,” Jackson says.

Yet the established miners remain unshaken in their confidence in the industry’s potential.

“Short-term demand for potash goes up and down from year to year but the time frame for bringing a greenfield mine to full production is a decade. Agrium is of the firm belief that long-term demand will continue to increase. How many new greenfield operations come to fruition will depend on the long-term supply demand profiles,” says Watson.

Bin Safety: A Wake-Up Call

BY MARTIN CHARLTON COMMUNICATIONS



WWW.FARMCENTRE.COM

It was the kind of publicity that no company ever wants: on November 28, 2009, a worker at Mosaic’s Esterhazy K2 mine was killed when a portion of a storage bin collapsed, burying the worker in tonnes of raw ore. It was a sharp and tragic wake-up call for the entire industry.

The potash industry shares a weakness with most large enterprises, including the government itself. A significant amount of the industry’s infrastructure was built roughly 50 years ago and is coming to the end of its operational life. When a city’s roads buckle or water mains break, the results are costly and aggravating. When an 800-tonne potash storage bin starts to show its age, the results can be profoundly dangerous.

The industry did not wait around for the government to establish a regulatory framework but went ahead and set its own voluntary inspection and safety systems.

Mosaic, in particular, made bin safety a priority and contracted March Consulting to establish an inspection system.

Naomi Girling, P.Eng. is a mechanical engineer with March who has worked on a number of inspections.

“The companies have been fantastic. It’s clearly important to them. They are the ones who sought this out. After all, I can’t imagine why they would be resistant to ensuring the safety of their employees.”

The inspections are a routine, methodical process.

“Our first step is to do a walk around, look at the junctions and do thickness tests at a sampling of places,” says Girling.

The tests allow Girling and the other inspectors to determine if the bins are safe in the short term but the assessment doesn’t end there.

“The second step is to provide them with an assessment of what it would take to make the bin what we call ‘fit for purpose’. In other words to ensure that the bin is safe to operate in the intended way for at least 10 years. Sometimes, the cost of remediating an old bin to the ‘fit for purpose’ level is too expensive so then our job is to make recommendations to keep the bin safe on a year-to-year basis until it can be replaced. At the end of it all, we give them documentation that states that the bins are as safe as we can make them.”

Girling’s job is made much easier by the high level of co-operation she gets from the companies, she says.

“Fortunately, this is something people are taking seriously. I’m sure they wouldn’t want to speculate on what would happen if there was another collapse.”

Member Profile



This month *The Professional Edge* chats with Marion Gagnon, a Geologist-in-Training with PotashCorp Lanigan.

Tell us about your personal and professional background.

I grew up on a small acreage near Meadow Lake. I always enjoyed the outdoors and did a lot of fishing and hiking. One summer, I also attended the Deep River Science Academy, a science camp in Manitoba where we worked on university-level projects under the supervision of a Ph.D. student.

Right after high school, I went to Yukon where I worked at bird banding to save money for university. I was also able to do a lot of mountain climbing, which is a hobby of mine.

After that, I enrolled at the University of Saskatchewan. This is where I took my first geology class and fell in love with the field.

What was it that appealed to you about geology?

Growing up, I was the kind of kid who always asked, “why?” People who know me know that I question everything. Geology was the first class where I felt someone could answer at least one of my questions. Today I love being able to climb around mountains, look at a rock, and know how it got there and how it came to be. It puts life in perspective and makes you appreciate how precious life is.

For anyone thinking about the field, I can say that geology is a great profession and a great career for anyone interested in science and the Earth. It never gets old.

What was your biggest challenge in college?

Physics. I don’t like physics. It was a challenge, but I overcame it. Oddly enough, it’s a major factor in the work I’m doing now. It’s funny how things can turn around like that.

What do you feel has been your single greatest accomplishment as a geoscientist so far?

I just convocated in 2010 so I would have to say this job, my first one, with PotashCorp. I’m the company’s first onsite geologist in the province so my first year was a great accomplishment because I was responsible for determining the best way to assist mine operations within developing my role. I loved the challenge and after my first year it was great to see how far I had come.

What are your interests outside of work?

I like to travel. I’ve been to Morocco’s Atlas Mountains and to volcanoes in Hawaii. I also ran a marathon for diabetes in 2010 which was a great accomplishment just to be able to know that I could go the distance.

Have you ever met anyone famous?

Not really, except for PotashCorp CEO Bill Doyle. I suppose he’s pretty famous.

Who has had the greatest influence on your life and career?

My father was a huge influence on me. He encouraged me to go into science, was very persistent about finding different scholarships for me and made sure I was on the right path. As for my career, there were many professors in university who taught me so much.

APEGS View



The Moose Jaw Engineering Society held its annual golf tournament on August 25th at the Deer Ridge Golf Course. Twenty participants took part in very windy conditions with MJES members Eric Light, Tim Janzen and their guests bringing in the low score of 10 under par.

MJES wants to thank all of the participants for making the tournament a great success and encourages all members to come out for fun and fellowship next year.

A very special thanks also goes out to all of our sponsors that provided us with prizes and support:

APEGS
Mosaic
SaskWater
Consulting Engineers of Saskatchewan
Stantec
Moose Jaw Refinery
Conexus Credit Union
Temple Gardens Mineral Spa
Nilex
AECOM
Associated Engineering
Enviroway
Culligan
Seaborn Agencies
Bonanza Restaurant
Deer Ridge Golf Club
Metcon Sales and Engineering
Cortex Engineering

Council Notes

JUNE 22, 2012, TEMPLE GARDENS MINERAL SPA, MOOSE JAW SK

16 of 19 Councillors present

- Council was advised that the new President of CES is Mel Leu, P.Eng. Andrew Loken, P.Eng., FEC, is the APEGS liaison to the CES.
- Council approved the creation of a task group to review the current financial surplus of the Association and make recommendations to Council.
- Council approved two recommendations from the Experience Review Committee. For the final work experience report the minimum standard wording within Social Implications was changed from “reasonable level of social awareness” to “clear understanding of professional responsibility to society.” The final work experience report will also include an additional page with specific questions to be completed by the supervisor or mentor.
- Council appointed Kevin McCullum, P.Eng. as Chair of the Academic Review Committee starting in October 2012 and ending at the committee meeting in October 2014 or the first meeting following October 2014.
- The Registrar’s Advisory Committee now includes a liaison councillor and the Terms of Reference were amended accordingly.
- Council appointed Shawna Argue, P.Eng., FEC as Chair of the Awards Committee for a two year term to end following the first meeting after the 2014 APEGS Annual Meeting.
- Council appointed Stormy Holmes, P.Eng., FEC as Chair of the Equity and Diversity Committee for a two year term to end following the first meeting after the 2014 APEGS Annual Meeting.
- Norman C-L Lee, P.Eng. was granted Life Membership effective February 2011.
- Council concurred with the following elements of the Canadian Framework for Licensure: Fairness and Service Level Norms; Licensing Requirements and Competencies for Limited Engineering Licence; and Licensing Requirements and Competencies for Professional Engineering Licence.

The next APEGS Council meeting is scheduled for October 11 and 12, 2012.

In Memoriam

Theodore W. Cherewyk, P.Eng.
Paul Riemer, P.Eng. FEC
Donald L. McCann, P.Eng.

Call For Council Nominations

Nominating Committee

The Nominating Committee, chaired by Past President Peter J. Jackson, P.Eng., FEC, is soliciting names for the positions described below. You may contact staff support to the Nominating Committee, Bob McDonald, P.Eng., FEC, LL.B., at rhmcDonald@apegs.sk.ca to propose the names of potential candidates. Bob may also be reached through the APEGS office in Regina by phone at 525-9547 (toll free 1-800-500-9547 North America), or facsimile 525-0851.

The bylaws require the Nominating Committee to nominate, whenever possible, for president the person holding the office of president-elect, and for president-elect the person holding the office of vice-president. Dwayne Gelowitz, P.Eng., FEC is the current president-elect and Andrew Loken, P.Eng., FEC, is the current vice-president. The Nominating Committee is also required to nominate, whenever possible, at least two persons for vice-president and at least two persons for any other vacancies.

Submission of Nominations

Any five members may nominate over their signatures an eligible nominee for any elective office, except that of President. Such nominations shall be in the hands of the Registrar at least 45 days before the election is to take place. To meet this requirement, the nominations must be in the APEGS office no later than 5 p.m., Thursday March 14, 2013, as the election will take place when ballots are counted on Monday April 29, 2013, the "polling day."

2013 Vacancies and Terms of Office

Officers

President-Elect one-year term

Vice-President one-year term

Group and Electoral District Councillors - to serve three-year term

Group I (Civil)

Group III (Electrical and Engineering Physics)

Group IV (Geological, Mining, Petroleum, Geophysics and Geoscientists)

Group VII (Environmental)

Eligibility for Nomination

Only members in good standing are eligible for nomination. A person elected to Council may only hold office while a resident of Saskatchewan.

A person nominated for president-elect must have served at least one full year as a member of APEGS Council prior to the date on which they would assume office as president-elect.

A person who is nominated as a representative of an electoral group must be classified with the association in that electoral group. The councillor representing Members-in-Training can complete the term of office after obtaining his or her P.Eng. or P.Geo. status.



**The price you DON'T
pay for returning
to university**

Three Engineers Canada-Manulife Financial scholarships, valued at **\$12,500 each**, will be awarded to professional engineers returning to university for further study or research in an engineering field.

For complete application information, visit:
www.engineerscanada.ca/e/pr_awards_2.cfm

**APPLICATION DEADLINE:
MARCH 1, 2013**



Endorsed by:



Engineers Canada is the business name of the Canadian Council of Professional Engineers



Engineers Canada is the business name of the Canadian Council of Professional Engineers.

*The term ENGINEERING is an official mark held by the Canadian Council of Professional Engineers.

Manulife, Manulife Financial, the Manulife Financial For Your Future logo and the Block Design are trademarks of The Manufacturers Life Insurance Company and are used by it, and by its affiliates under license.



APGO Council Appoints New Executive Director

The Association of Professional Geoscientists of Ontario (APGO) is pleased to announce the appointment of Gord White as Executive Director. Reporting to the APGO Council, White joined the association on September 24, 2012 and will be responsible for managing all aspects of APGO operations, as well as driving achievement of the strategic plan.

White served on the Ontario Retirement Communities Association (ORCA) for 12 years as CEO. He directed the activities of ORCA, which included strategic and business planning, public and government relations and membership development. White raised the profile and credibility of ORCA in the media, with stakeholder groups, and government. Prior to his work at ORCA, White was Executive Director of the Association of Local Public Health Agencies.

White brings an extensive understanding of executive

leadership, strategic planning, government relations, association management, board governance, stakeholder relations, conference planning, advocacy and team development.

A graduate of Brock University, White holds a B.A. in psychology with further development in business administration from Brock University. White has also served the community as a member or chair of various councils and committees.

Founded in 2000, APGO governs the practice of professional geoscience in Ontario and reports to the Minister of Northern Development and Mines. The legislation protects the public and investors by establishing a regulated association of geoscientists and maintaining high academic, experience, development, and practice standards. With over 2,000 members, APGO is the second largest geoscience regulator in Canada.



APEGBC Council Appoints New Chief Executive Officer and Registrar

The Association of Professional Engineers and Geoscientists of BC (APEGBC) is pleased to announce the appointment of Ms. Ann English, P.Eng. as Chief Executive Officer and Registrar. Reporting to APEGBC Council, English will join the Association on November 13, 2012 and will be responsible for all aspects of the Association's operations.

English succeeds Derek Doyle, P.Eng., who will pursue retirement after having served as CEO and Registrar since January 2007.

English will join APEGBC after almost 10 years at BC Hydro in a variety of senior leadership roles. She is currently the Director of Interconnections, responsible for the connection of load and generator

customers (Independent Power Producers) to the transmission and distribution systems. Previously, she led BC Hydro's 2010 Olympic and Paralympic Winter Games Initiatives project which won four awards and raised the bar on green energy solutions for future Olympic Games events.

In addition to her work with BC Hydro, English has significant experience in private industry, with nearly 20 years at Foster Wheeler, a large utility equipment, engineering and construction company. She is a graduate of the University of Manitoba with a degree in mechanical engineering and a graduate of the University of Toronto with a degree in physiology.



Kim Allen, P.Eng., FEC, to lead Engineers Canada as its new Chief Executive Officer

Engineers Canada is pleased to announce the appointment of Kim Allen, P.Eng., FEC, as chief executive officer effective September 11, 2012.

Most recently chief executive officer at Professional Engineers Ontario, Allen is a dynamic leader committed to finding creative solutions and implementing winning strategies. He brings to his new role the experience of being at the helm of PEO for nearly a decade as chief executive officer and registrar.

One of Allen's top priorities will be to provide strong leadership and management skills to enhance collaboration between Engineers Canada and its 12 constituent associations, governments and other organizations.

The timing of Allen's appointment provides a unique opportunity for Engineers Canada to make a difference for the engineering profession and for society through the development and implementation of innovative policies and programs.

In addition to his years at PEO, Allen has a solid 20 record of accomplishment as a chief executive in the public, private and association sectors. A past member of the Ontario Minister of Citizenship and Immigration's Roundtable; director with Yves Laundry Foundation; and chair of the Licensing and Occupations Bridging Working Group of the Toronto Region Immigrant Employment Council, Allen currently sits on the boards of the Certified Management Accountants, Ontario Energy Network and the Fairness Commissioner's Advisory Committee.





Professional engineers are invited to enter the 2013 Engineers Canada National Scholarship Program competition.

Deadline : March 1, 2013

Manulife Financial Scholarships of \$12,500

Candidates must be accepted or registered full-time in a **faculty of engineering**, beginning their studies no later than September 2013.

TD Insurance Meloche Monnex Scholarships of \$7,500

The field of study chosen should favour the acquisition of knowledge pertinent to enhancing the performance of the candidate in the engineering profession. Candidates must be accepted or registered full-time in a **faculty other than engineering**, beginning their studies no later than September 2013.

TD Insurance Meloche Monnex Léopold Nadeau Scholarship of \$10,000

Candidates must be accepted or registered full-time, no later than September 2013, in an acceptable program that will greatly enhance their expertise, abilities and potential to influence **the development of public policy**.

Refer to the application form for the complete list of eligibility requirements.

Application forms are available at:

www.engineerscanada.ca/e/pr_awards_2.cfm

Contact the Engineers Canada National Scholarship Program:
awards@engineerscanada.ca



*Engineers Canada is the business name of
the Canadian Council of Professional Engineers.*

**The term ENGINEERING is an official mark held
by the Canadian Council of Professional Engineers.*



Fundraiser

SPONSORED BY O'KANE CONSULTANTS INC.

EVENT:

Dinner, silent auction and raffles in support of El Sauce School, El Salvador, a project of Rainbow of Hope for Children and Habitat for Humanity

DATE & TIME:

December 13th, 2012, 6:30 PM

LOCATION:

Cosmopolitan Seniors Centre (off Broadway) 614 11th St. E, Saskatoon

COST:

\$30 per ticket for buffet-style taco bar

CONTACT:

Kristie Bonstrom at kbonstrom@okc-sk.com for tickets and info

Watch for more information on O'Kane Consultants' Habitat for Humanity build in next issue's Making a Difference column.



O'Kane Consultants volunteers at El Sauce school, El Salvador.

Harvard Western Insurance

2151 Albert St., Regina, SK S4P 1V8
Phone 306-757-1633 Fax 306-757-1434
TOLL FREE - 1-888-382-6657

A P E G S - HOME INSURANCE PLAN COVERAGE SUMMARY

FOR MEMBERS OF THE ASSOCIATION OF PROFESSIONAL
ENGINEERS & GEOSCIENTISTS OF SASKATCHEWAN

PEACE HILLS INSURANCE - COMPREHENSIVE HOME POLICY:

- Homeowners, condominium and tenant packages available
- All Risk - Replacement Cost Coverage
- Guaranteed Replacement Cost for most homes – including old homes if fully updated
- Standard \$500 deductible - discounts for higher deductibles
- Sewer Backup coverage – replacement cost - subject to policy deductible
- Actual Cash Value coverage applies for damage to asphalt shingle roofs over 20 years old
- Personal Liability - \$2,000,000 included

SPECIAL LIMITS:

- | | |
|---------------------------------|--------------------|
| - Bicycles | \$ 1,000. per bike |
| - Business Property on Premises | \$ 5,000.* |
| - Card/Comic Book Collections | \$ 5,000. |
| - Jewellery/Furs | \$ 6,000.* |
| - Securities | \$ 6,000. |
| - Stamps & Stamp Collections | \$ 3,000. |
| - Coins | \$ 1,000. |
| - Credit/Debit Card Forgery | \$ 10,000. |
| - Garden Tractors | \$ 10,000. |
- * Option to increase for additional premium

DISCOUNTS:

- | | |
|------------------------------------|-----------|
| - Age 50 | 15% |
| - 3 Years Claims Free | 10% |
| - 5 Years Claims Free | 15% |
| - New Home (0 - 25 years) | 1% to 15% |
| - Loyalty/Renewal | 1% to 10% |
| - Mortgage Free | 5% |
| - Alarm Discount (Burglar & Smoke) | 15% |
| - Maximum Discount Available | 50% |
|
 | |
| - \$1,000 Deductible | 15% |
| - \$2,000 Deductible | 25% |

ADDITIONAL PRODUCTS:

- Seasonal Homes, Rental Homes
- Watercraft Floater
- Jewellery, Furs, Fine Arts Floaters
- Small home based business packages available

Contact us by Email – boltean@harvardwestern.com

SAVE AN AVERAGE OF 15% OVER YOUR EXISTING POLICY

Member Application Denied Due to Character Issues

BY TINA MAKI, P.ENG., DIRECTOR OF REGISTRATION

The Registrar's Advisory Committee (RAC) considered another case recently where an applicant's character was called into question. The applicant's character was previously examined by another Association prior to the person applying to APEGS. APEGS received the details from the other Association and this information was considered by the RAC as part of the person's application to APEGS.

The RAC, made up of the chairs of the Academic Review Committee, Experience Review Committee and Licensee Admissions Committee, reviews applications where an issue of character comes up during the application process. The committee uses the Good Character Guideline to make its determination and makes a recommendation to the Registrar. The Good Character Guideline can be found on the APEGS Web site under Registration, Overview.

Cases can come before the Registrar's Advisory Committee when an applicant:

- a) has a record for professional misconduct, professional incompetence, or contravention of a professional statute with a professional regulatory organization or agency; or
- b) has committed a criminal offence for which a pardon has not been granted pursuant to the Criminal Records Act; or
- c) has been found to be at fault in a civil action relating to negligence in his or her professional practice; or
- d) willfully obtains or attempts to obtain registration or renewal of registration by cheating on an examination, making or causing to be made a false statement on his/her application, or committing any other impropriety during the application process

In this case, the applicant did not disclose a previous criminal conviction to another association when the applicant applied for membership with them. A direct question on criminal conviction is asked by the other association on their application form. During the experience review process, the criminal conviction came to light. The other association then put the applicant through character review and there were a number of conditions imposed on the applicant before their professional membership application could be considered in the future. The applicant also did not disclose to APEGS a previous application with a third association within Canada.

The RAC considered the details of the case processed by the other association along with information submitted by the applicant. The RAC recommended to the Registrar that the application be denied due to character issues, specifically:

- a) contravention of a professional statute with a professional regulatory organization or agency;
- b) committed a criminal offence for which a pardon has not been granted; and
- c) making a false statement on his/her application.

APEGS would re-consider the application in the future should the conditions imposed by the other association be completed and the person becomes registered as a professional engineer with them. The applicant was invited to notify APEGS at any time of any developments on these conditions.

The information the RAC deals with is understandably sensitive and confidential. This decision is being published in *The Professional Edge* to inform members and applicants of the importance of providing accurate and complete information on application forms, even on applications to other Associations. Professional conduct is integral to membership. The Code of Ethics (section 20 of *The Engineering and Geoscience Professions Regulatory Bylaws, 1997*) is to be recognized as a set of enduring principles guiding your conduct and way of life. The application process is the initial stage to membership and good professional conduct is required at every stage.

Important considerations in these cases:

It is very important that applicants carefully complete application forms and disclose all relevant information. Not doing so could mean denial of the application even if the impropriety was committed during the application process with another Association.

A decision of the Registrar to deny an application can be reviewed upon request by the applicant to the APEGS Council and can be appealed further to the Court of Queen's Bench pursuant to sections 24 and 25 of *The Engineering and Geoscience Professions Act*, respectively.



**Do you have
your
RESERVATION?**

Consulting Engineers of Saskatchewan

Proudly Presents the Industry's Prestigious

2012 Awards Banquet

***Showcasing the achievements of companies and individuals
in the Consulting Engineering and Geoscience field***

Thursday, November 29, 2012

Delta Bessborough Hotel

Saskatoon

To register or for information, contact CES Office

Ph: 306.359.3338

Email: ces1@sasktel.net



*Open to all employees of CES members
and Invited Guests*

Fees Notice

Fees for 2013 are due on or before
December 31, 2012

APEGS will mail out dues notices for 2013 annual fees to both individual members and holders of a Certificate of Authorization in mid-November. Your annual fee payment covers the upcoming calendar year. If you do not receive your dues notice, call APEGS at 525-9547 (Regina) or 1-800-500-9547 (North America) and ask to have a copy mailed or faxed to you. Fees are due on or before December 31, 2012 regardless of whether you received your dues notice. In accordance with *The Engineering and Geoscience Professions Administrative Bylaws, 1997*, your membership will cease on January 31, 2013 if your annual fee payment has not been received in the APEGS office on or before January 31, 2013.

Members who are 65 years of age and retired are eligible to apply for Life Membership. Life members are not required to pay the annual membership and licence fee; however, if they wish to resume practice, fee payment is required. Members who are retired or not working (at anything) in Saskatchewan can retain membership but are eligible for a waiver of the annual licence. More information can be obtained from the documentation accompanying the dues notice or from the APEGS office.

Failure to maintain your membership will result in ineligibility for benefits under the group life insurance program offered through Manulife and Engineers Canada (CCPE). Members who do not retain their membership in APEGS and/or another Canadian association/ordre will lose coverage under the National Secondary Professional Liability Insurance Program.

Members allowing their membership to cease are subject to a 15 per cent fee to reinstate their membership and annual licence. The late payment penalty for the holder of a Certificate of Authorization is 15 per cent of the annual fees. Members who notify the APEGS office in writing of their intent to resign their membership on or before January 31, 2013 may reinstate their membership and licence during the calendar year without the payment of a reinstatement or application fee.

Fee payments and member profile updates, including registering continuing professional excellence credits, can be done using the Member On-Line Services available through the APEGS web site www.apegs.sk.ca Fees can also be paid by VISA, AMEX or Mastercard at the APEGS office, or by phone at 525-9547 (Regina) or 1-800-500-9547 (North America), or by email to apegs@apegs.sk.ca



The APEGS Professional Development Committee is pleased to announce a fall Continuing Professional Excellence opportunity for engineers and geoscientists.

Thursday November 1 and Friday November 2, 2012

Temple Gardens Mineral Spa

24 Fairford Street East, Moose Jaw, Saskatchewan

Both days will include morning and afternoon coffee breaks and lunch. This professional development opportunity offers the following selection of courses:



COURSE ONE

Get to the Point!

- A Practical Writing Course for Technical Professionals



COURSE TWO

Infrastructure Climate Risk Assessment

- Tools and Processes
- PIEVC Engineering Protocol



COURSE THREE

Environment and Substantiability Topics

- Saskatchewan Environmental Code - Results Based Regulation
- Balancing Risk: Site Remediation Outside the Environmental Assessment
- Alternative Energy: Sources and Solutions
- City of Saskatoon: Energy and Greenhouse Gas Management Plan



Name: Designation:
 Representing:
 Address:
 Telephone: Email:

Temple Gardens Mineral Spa

24 Fairford St. East, Moose Jaw, Saskatchewan

NOTE: Rooms may be booked directly with the Spa.
 Indicate you are attending the sessions for the reduced room rates. Fees include GST.

	MEMBER/ NON MEMBER	STUDENT
COURSE ONE		
November 1 and 2, 2012, 8:30 am - 5:00 pm		
Get to the Point ! A Practical Writing Course for Technical Professionals	[]	[]
Memeber/Non-member: \$600.00. Student: \$275.00. (Lunch included)		
COURSE TWO		
November 1, 2012, 8:30 am - 5:00 pm		
Infrastructure Climate Risk Assessment Tools and Processes	[]	[]
PIEVC Engineering Protocol		
Memeber/Non-member: \$300.00. Student: \$200.00. (Lunch included)		
COURSE THREE		
November 2, 2012, 8:30 am - 5:00 pm		
Environmental Code Site Remediation	[]	[]
Memeber/Non-member: \$300.00. Student: \$200.00. (Lunch included)		

Method of Payment

- Cheque enclosed (make cheques payable to APEGS)
- MasterCard..... Exp (MM/YY)
- Visa..... Exp (MM/YY)
- AMEX Exp (MM/YY)

Mail / Fax Completed Forms to APEGS

104 - 2255 13th Avenue, Regina, SK S4P 0V6, Fax: (306) 525-0851 or Email to angelaf@apegs.sk.ca
 Or register online @www.apegsservices.ca/meetings

News Beyond Our Borders



ELLIOT LAKE NEWS

Engineers had Sketchy Record

Two engineers who this year signed a letter declaring the Elliot Lake Algo Centre Mall structurally sound were found guilty of professional misconduct for work on an unrelated project by a provincial regulatory body in 2010.

The Ontario Provincial Police are conducting a criminal investigation into the Algo Centre's collapse on June 23, which killed two people and injured several more.

In November 2010, the discipline committee for Professional Engineers Ontario (PEO) signed a decision finding the two men and their firm, M.R. Wright & Associates, guilty of professional misconduct for their work on the rehabilitation of a private logging bridge in Northern Ontario. The statements allege that M.R. Wright failed to inspect some bridge components and provided official drawings that contained "numerous errors, omissions or deficiencies."

Although they initially denied the allegations, the men later agreed to a plea deal. The association did not pursue allegations of incompetence against the men.

Source: Association of Professional Engineers of Nova Scotia

Records With Pasta

Grade 1-12 students demonstrated their engineering creativity Saturday, March 10, 2012 at a Winnipeg shopping mall. Each student carefully constructed a bridge from spaghetti and white glue for the event, where volunteers from the Association of Professional Engineers and Geoscientists of Manitoba (APEGM) loaded the bridge until its inevitable collapse.

APEGM challenged students to surpass their goal of donating 10,000 pounds of pasta to Winnipeg Harvest food bank. For every pound of weight the bridge held before fracture, a pound of pasta was donated to the local charity.

"In 2011, the cumulative weight supported by all bridges was 4253kg, or 9,377 lbs. This year, we increased our cumulative weight to 5313kg, or 11,689 lbs, our all time high," said Angela Moore, APEGM Events & Communications Coordinator.

In order to get students (and their teachers) excited about the goal, APEGM provided pizza parties to classes that brought 10 students or more. As well, cash prizes were given out to the bridge that held the most weight in each grade and grand prizes were awarded for grades 1-6 and 7-12.

Source: Association of Professional Engineers and Geoscientists of Manitoba



CITY OF EDMONTON

Edmonton Scores Engineering Hat Trick

Beneath Edmonton's busy 104th Avenue, workers are carving out parallel tunnels as part of the north LRT project to link NAIT to Churchill Station downtown.

The 3.3-kilometre extension, budgeted at \$755 million, is the first segment of an LRT route to Edmonton's city limits near St. Albert. The city's transportation master plan envisions LRT service reaching all sectors of Edmonton by 2040.

Current tunnelling speed is slow—2 metres every 24 hours, say published reports, because the ground is made up of glacial till and clay. But as of the end of May, crews reached a pre-built section at EPCOR Tower. By doing the prebuild in conjunction with the project at 104th Avenue and 101st Street, the city saved taxpayers \$140 million.

By early April 2014, the full Churchill-to-NAIT section should be ready for a grand opening, says the city's website.

EPCOR Tower, meanwhile, is groundbreaking in its own right. When crews put the final touches on it last fall, the tower became the first new downtown office building in 20 years. Developed by Qualico and built by Ledcor Construction for around \$250 million, the 28-floor structure has a building area of 625,000 sq ft. It features 9' 6" ceilings, a dozen high-speed elevators, and four levels of underground parking.

The building incorporates passive geothermal cooling and heating, rainwater collection to irrigate its landscaping, low-flow water fixtures and many other resource-conserving features.

And then there's the massive bear, with bright red prey in its mouth and deep, dark contours in its coat. The large stainless steel sculpture greets visitors just a few feet from the main entrance. Weighing more than 5 tonnes, Bear With Salmon had to be placed in the lobby with a crane during construction. Edmonton-born Dean Drever created the piece, commissioned by Qualico for \$2.5 million.

Source: Association of Professional Engineers and Geoscientists of Alberta

Ultimate Green Building in BC: Where Else?

From the outside, the Centre for Interactive Research on Sustainability (CIRS) at the University of British Columbia looks deceptively ordinary. Inside, it is an extraordinary living lab of "extreme green" building standards.

The 58,000 square foot building is estimated to sequester the equivalent of 600 tonnes of CO₂, greater than the 525 tonnes generated during the manufacturing, transportation and installation of other building materials used in construction.

A ground source geo-exchange field and a solar hot water system supplement CIRS's energy requirements, as do photovoltaic cells on the atrium skylight and on the window shades. As well, the sunny west side of the building features a "living" wall, planted with deciduous chocolate vines that will shade the building in summer and allow light through in winter.

While its energy systems are largely out of sight, water and wastewater treatment systems at CIRS are in plain view.

Rainfall is directed either to an underground cistern for treatment and use inside the building, or—if the rain falls on the green roof—it's redirected to the natural aquifer 90 metres underground. Not a drop is sent to the municipal storm sewer that discharges on local bodies of water. Nor did CIRS designers want to depend on the municipality for treating its wastewater; part of being sustainable means having a closed loop water cycle. Most conventional wastewater treatment plants use chemicals and are not closed loop. The CIRS answer was to create a system that mimics nature, where plants and bacteria in a wetland environment treat liquid waste biologically. Eco-Tek, Ecological Technologies, based in Langley, BC, was asked to design and build one of its solar aquatics systems for treating wastewater.

The building cost approximately 25 per cent more to build than a comparable building although the designers believe that much of that cost will be recouped through savings over time.

Source: Association of Professional Engineers and Geoscientists of British Columbia



Klondike Tech Named National Historic Site

The Canadian Klondike Mining Company Dredge Number 4 (floating elevator dredge) was recently designated as a National Historic Civil Engineering Site.

Dredge #4 was originally constructed in 1912 and was operational on the Klondike River in 1913. The dredge was completely reconstructed at a new operating site in 1941 using the original machinery and replacing all of the timber. It is the largest vessel of its kind in North America for picking up gravel from a creek bed, washing it with water to separate the gold, and discarding waste rock at the discharge end. Dredge #4 is the only intact artifact of

this style of gold mining that occurred in the Klondike region from 1900 to 1966.

The dredge was based on mining technology originally developed in New Zealand in the 1880s, and refined in the United States. Floating on a pond of its own creation, the dredge lifted the gold-bearing gravel by means of a chain of buckets.

A total of 19 dredges have operated in the Klondike region over the 1900-1966 period. Dredge #4 is the only example left intact.

Source: Association of Professional Engineers of Yukon

Toronto Cleans Up Its Act In A Big Way

As part of Toronto's massive waterfront revitalization, a new stormwater treatment facility and outfall are being constructed in the West Don Lands precinct. The facilities are so advanced, they treat stormwater with processes normally used to treat water and wastewater.

Waterfront Toronto's Revitalization Project is the largest urban renewal project in Canada and one of the largest waterfront projects in the world. It includes 800 hectares of former industrial lands, the creation of 40,000 residential units over a period of 25 years, and \$30 billion in private and public investment.

Of this land, 32 hectares will be dedicated to the West Don Lands precinct, which will be the site of the 2015 Pan Am Athletes' Village. The precinct will include 6,000 residential units, as well as commercial and other buildings.

The stormwater quality facility for the West Don Lands precinct reflects the advanced criteria the city of Toronto incorporated in its 2006 Wet Weather Flow Management Guidelines. Waterfront Toronto is the first developer to be subject to the combination of the stringent stormwater sediment removal and disinfection provisions of the guidelines. They require 80 per cent total suspended solids removal and disinfection to 100 E.coli per 100 mL.

Source: Canadian Consulting Engineer

Celebrating Our Own



Dennis K. Paddock, P.Eng., FEC,
FCSSE, FCAE,

Dennis K. Paddock, P.Eng., APEGS Executive Director and Registrar, was inducted as a new Fellow of the Canadian Society for Senior Engineers (CSSE) at their 10th Anniversary Annual General Meeting and Awards Banquet May 26, 2012.

The CSSE is a Member Society of the Engineering Institute of Canada (EIC), along with nine other Member Societies that represent specific engineering disciplines. CSSE reflects all engineering disciplines. It has full voting privileges and the opportunity to represent its members within EIC on national engineering issues.

Mr. Paddock was also inducted as a new Fellow into the Canadian Academy of Engineering. President P. Kim Sturgess inducted 49 new Fellows into the Canadian Academy of Engineering on June 21, 2012. The ceremony took place in Ottawa in conjunction with the academy's 2012 Annual General Meeting and Technical Symposium.

The Canadian Academy of Engineering (CAE) is the national institution through which Canada's most distinguished and experienced engineers provide strategic advice on matters of critical importance to Canada.

Dennis Paddock is an exemplary professional engineer. He provided 25 years of significant pioneering engineering leadership in infrastructure development, resource planning and regulation throughout northern Saskatchewan. For the past 19 years, his valuable executive leadership in the regulation of the engineering and geoscience professions within Saskatchewan and nationally have contributed significantly to national mobility and international credential recognition, and to greater respect for the professions by legislators and the public.

Making A Difference

The professions of engineering and geoscience are not just about nuts and bolts; they are about making real, tangible differences in the lives of people around us. Members of the professions do that every day through their work but some members take this commitment a step further through volunteer service at home or abroad.

In this new, regular column, *The Professional Edge* will spotlight organizations and individuals that are improving the lives of people in need by contributing their time and skill.



Engineers Without Borders

CONTRIBUTED BY BRANDON REECE AND ADUMO FIABEMA

Despite modern technology, many people are living in extreme poverty. The modern manure spreader may have increased food production but not everyone has access to it. Heart pacemakers aren't saving as many lives as we imagined. What is responsible?

With health care, food and agriculture issues and poor education identified as some of the root causes of poverty, engineering could provide meaningful long-term alleviation of hunger if we made a greater commitment to public welfare. This means coming up with the appropriate technology where it is needed the most and working with authorities to see our work is actually improving living conditions.

Engineers Without Borders' approach to development provides an illustration. In Africa, EWB focuses exclusively on systematic innovations. They don't drill wells; they help to ensure that thousands of wells are monitored and repaired. They don't distribute farm machinery; they help provide small businesses with the tools and information that farmers need to prosper. All of this is made possible by co-operating with the local community, businesses, governments, organizations and entrepreneurs while working with them to develop change using an established five-stage process: Search, Prototype, Pilot, Multiply and Exit.

It all combines to create an unprecedented locally driven approach to development that ensures:

- Greater efficiency and value. EWB is able to identify early what doesn't work, learn and improve until we find what does.
- Local relevance. We get inside problems to ensure we really understand and address the root causes.
- Local capacity building. Local partners learn and get stronger, changing the system from within.

The University Of Regina Chapter of Engineers Without Borders has concerned itself with curriculum enhancement for undergraduate engineers studying at the U of R with the aim of grooming socially minded engineers. An engineering profession that is better aware of its potential for positive impact on the world is better equipped to bring about that change.

News From The Field



PWGSC tightens rules

Canadian Consulting Engineer - The federal government has tightened its rules to prevent corruption creeping into the way it procures its services.

The Ministry of Public Works and Government Services (PWGSC) made the announcement on July 11. Under the new rules, which became effective immediately, PWGSC extended the list of offences that will make companies and individuals ineligible to bid on contracts includes:

- money laundering
- participation in activities of criminal organizations
- income and excise tax evasion
- bribing a foreign public official and
- drug trafficking.

These offences were added to the existing list, which include fraud under the *Financial Administration Act*, collusion, bid-rigging and payment of a contingency fee to a person to whom the *Lobbying Act* applies.

The list of offences will also apply now to PWGSC real property transactions such as leasing agreements, letting of space and the acquisition and disposal of Crown-owned properties. The department will be able to terminate contracts with companies or individuals that are convicted before the end of their contract or lease.

Farms could farm their own energy

Canadian Consulting Engineer – Farms could become power sources as well as food sources, according to a group of Canadian and American students who have received a research grant from the American Society for Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE).

“Farms and ranches have the potential to become completely energy independent due to available resources and space for their development,” says one student from the group.

The researchers believe that farms could take advantage of their geothermal heating and cooling potential, since they have building complexes that are ideally suitable for small district ground source heat pump systems (GSHP).

The students are also interested in expanding the use of natural gas or biomass cogeneration units and hybrid GSHP systems to satisfy thermal and electrical needs for farms and ranches.

A total of 23 students, including four Canadians, have received the ASHRAE grants.

Saskatchewan canola plant gets major upgrade

Journal of Commerce - Richardson Oilseed Limited is planning to start construction this fall on an ambitious expansion project at its canola processing plant in Yorkton. The project will increase crushing capacity by 25 per cent while still maintaining full operations during construction.

With the conceptual stage of the upgrade complete, the project has moved on to detailed engineering, which involves the placement of equipment, linking the equipment together and the structural engineering for the building expansion.

The company is expanding the capacity of its Yorkton canola processing plant only two years after the \$170 million facility opened in June 2010.

The project will increase processing capacity from 2,400 tonnes of canola per day to 3,000 tonnes per day.

The expansion will allow the Yorkton plant to process more than one million tonnes of canola per year compared to its current 840,000 metric tonne annual capacity.

A company spokesman said the expansion is driven by increased domestic and international demand for canola, which in turn is being driven by growing consumer interest in healthier food products and biodiesel fuels.



WWW.UCDM.C.UCDAVIS.EDU

UNIVERSITIES AND RESEARCH

New impact crater discovered

Canada.com - Geological researchers have discovered a “new” impact crater in the Canadian Arctic. Co-discoverers Brian Pratt, P.Geol. of the University of Saskatchewan and Keith Dewing, P.Geol. of the Geological Survey of Canada published the find, stating that the crater was about 130 million to 350 million years old, which would place it from the late Paleozoic to the mid-Mesozoic era.

“Impact craters like this give us clues into how the Earth’s crust is recycled and the speed of erosion, and may be implicated in episodes of widespread extinction in the past,” said Pratt, who has been visiting the remote site in the Northwest Territories for the past two summers.

Impact craters are common features on bodies such as the Moon and Mars, but rare on Earth. Terrestrial processes such as wind, ice and rain erosion make short work of craters and only about 160 have been identified worldwide. Dubbed the Prince Albert impact crater after the peninsula that it is located on, this crater is the 30th identified in Canada.

The Prince Albert impactor would have had to have been at least a kilometre in size and have released the equivalent of over 50,000 megatons of TNT when it hit.

Although statistically rare, an “extinction level event” is inevitable on geologic time scales. Various grassroots organizations such as the B612 committee chaired by former Apollo astronaut Rusty Schweickart exist to provide a think-tank for how to deflect such threatening space rocks.

URANIUM AND NUCLEAR

Environmental approval for uranium project

World Nuclear News - The federal Minister of Environment recently gave the proposed Midwest project in northern Saskatchewan the environmental go-ahead as long as the mitigation measures and follow-up programs described in the comprehensive study report are carried out. He has referred the project back to the responsible authorities—the Canadian Nuclear Safety Commission, Fisheries and Oceans Canada, Natural Resources Canada and Transport Canada—for appropriate action.

The Midwest project is located some 15 kilometres west of the McClean Lake operation. The project involves development of the Midwest ore deposit as an open pit mine, development of a dedicated haul road linking the Midwest development with the existing McClean Lake operation and increasing the production capacity of the JEB mill at McClean Lake to accommodate the planned rate for milling of the Midwest ore.

The environmental assessment (EA) submission was made in October 2007 and a decision was originally anticipated in the first half of 2009. That version of the EA was based on mining the Midwest deposit by conventional open pit mining methods. However, the partners are currently evaluating other potential mining methods including conventional underground and surface jet bore drilling using the SABRE (“surface access borehole resource extraction”) mining technology, as well as open pit. A three-hole test mining program of the SABRE method is under way on the McClean Lake property.

The extensive timeline of the Midwest project’s environmental assessment was recently cited by senior government officials as an example of the need for regulatory reform in Canada.

Cameco’s Rabbit Lake operations back to normal after evacuation

Mine Web - Although there was no safety risk, Cameco officials evacuated the Rabbit Lake site briefly during the summer in accordance with their emergency response plans regarding forest fires in the area.

Cameco’s Rabbit Lake operation in northern Saskatchewan resumed normal operations the next day after the area was evacuated due to a forest fire.

Rabbit Lake mill is currently shut down for scheduled maintenance and capital improvements.

About 300 people were evacuated and spent the night at

nearby mining operations or were flown to Saskatoon. The next day, following a thorough survey, Cameco and the Saskatchewan wildfire management branch determined that it was safe to resume normal activities and people began returning to the site.

INFRASTRUCTURE

Sask snags flood plan cash

Canadian Press - Manitoba, Saskatchewan and Quebec will be the first to receive cash from a new federal program aimed at preventing disasters before they happen.

The three provinces will be reimbursed for half the cost of permanent dike expansions and other measures they took last year in advance of severe flooding that forced thousands of people from their homes.

The funding comes from a three-year, \$99.2-million program first announced in the spring federal budget. Normally, Ottawa refunds provinces for repairs after a disaster strikes, but the new approach intends to share the cost of permanent preventive structures as well as other costs such as risk assessments.

Exactly how much money each province will receive has yet to be worked out, and it may not be enough to satisfy them.

Manitoba alone spent hundreds of millions of dollars fighting last year's flood and is hoping for more federal funding for an emergency channel that was built at Lake St. Martin. Ottawa has yet to confirm whether that channel will qualify for cash.

Rough roads a roadblock to growth

Regina Leader-Post - Ask anyone who lives in Saskatchewan's north what the region's single biggest problem is, the most frequent response is "the roads."

"We really have to look at the transportation infrastructure in the Athabasca region, if you want to see the economies and the quality of life improve. Once you have the transportation infrastructure in the Athabasca region, we'll be able to look at more resource development, more opportunities, more jobs," said Don Deranger, vice-chief of the Prince Albert Grand Council.

The Saskatchewan Chamber of Commerce is advocating the construction of an all-season road and has invested in an awareness campaign on the issue.

The idea of building an all-season road in the Athabasca region has been around for decades. A proposed upgrade

to the Athabasca Seasonal Road (ASR), the 180-km stretch of winter road that serves Stony Rapids, Black Lake, Fond-du-Lac, Uranium City and Camsell Portage, has been in the works since the 1990s.

Another project is the long-promised, partially completed, 102-km Highway 955 to Wollaston Lake. At present, the community of about 1,500 is accessible only by air in spring and fall during breakup and freeze-up.

All-season roads don't come cheap, especially in the North where sandy soil, permafrost and Precambrian shield make building roads a costly, labour-intensive exercise. For example, the proposed 180-km upgrade of the ASR could cost anywhere from \$220 million to \$300 million, depending on the roadbuilding standard used.

Another proposed project is a 53-km extension of Highway 914 from McArthur River to Cigar Lake, two uranium mines co-owned by Cameco and AREVA. This would allow AREVA to avoid trucking uranium ore 920 km on public roads from its McArthur River mine to its McClean Lake mill. The bill for that project? A minimum of \$65 million.

Geoff Gay, CEO of Athabasca Basin Development (ABD), which has acquired ownership stakes in West Wind Aviation and Points North Group, among others, says an all-season road will help spur development of the uranium mining sector, which is clustered around Points North.

"This is the only site that has all the uranium mines in Canada within 90 km," including Midwest, McClean Lake, Eagle Point, Rabbit Lake, Cigar Lake and McArthur River uranium projects. "When they build the road to McArthur River, all the mines will be accessible by road."

In total, the cost of upgrading 430 km of seasonal roads to all-season roads in the Athabasca region would be \$500 million-plus, not including maintenance costs. There is, however, potential for private-public partnerships (P3) with uranium companies and private companies like ABD, which could lessen the burden for taxpayers.

Feds hear engineers' advice on infrastructure

Canadian Consulting Engineer - The federal government has wound up its discussions on how to shape a new long-term infrastructure plan.

Denis Lebel, Minister of Transport, Infrastructure and Communities, and Steven Fletcher, Minister of State, Transport, held a series of round tables in June and July to discuss how the government should develop a new long-term infrastructure plan to replace the Building Canada Plan which expires in 2014.

The government consulted the provinces, territories, municipalities and stakeholder groups about what shape a

new plan should take. The Association of Consulting Engineering Companies (ACEC) requested seats at five round tables in different regions. As a result, individuals representing provincial consulting engineering associations were at round tables in P.E.I, Quebec City, Toronto, Kenora, and Edmonton.

The seven-year, \$33-billion Building Canada Plan that was introduced in 2007 and expires in 2014 was Canada's first ever long-term infrastructure plan.

ENVIRONMENT

Dangerous toxins in Saskatchewan lakes

CME - A Canadian-wide study has found dangerous levels of toxins in some of Saskatchewan's most popular lakes.

University of Regina researchers spent the last five years watching toxin levels on seven lakes in the Qu'Appelle Valley system. Only one, Lake Diefenbaker, didn't have problematic levels of toxins. A department spokesman said the toxins include liver toxins associated with liver dysfunctions, liver failures and tumours.

The problem is believed to be coming from pollution and farm runoff, which then feeds the blue-green algae responsible for the toxins.

The study found Pasqua and Wascana Lakes will have outbreaks so bad that the water will go through periods when it's not fit for human contact.

Right now the province is working on a 25 year plan for water, which the study suggests may fall short on turning around the issue.

Many projects no longer need assessments

CBC News - The federal government has cancelled nearly 3,000 environmental assessments across the country, and more than 700 of those tests were for projects in Saskatchewan.

The reviews have been cancelled because Ottawa changed the rules on what requires an environmental assessment when its new *Canadian Environmental Assessment Act* came into effect on July 6.

The list of projects, posted on the Canadian Environmental Assessment Agency's website, ranged from new oil sites on rural and First Nations land to an expansion of a tailings pit at Cameco's Rabbit Lake uranium mine.

The cancelled assessments—764 in total in Saskatchewan—also include:

- A proposed hydro facility at Fond-du-Lac.
- Replacement of a bridge in the R.M. of Garden River, SK
- Construction of a 48-lot subdivision on the Pasqua First Nation.
- Canadian Pacific Railway's Intermodal Facility at Regina's Global Transportation Hub.
- The Saskatchewan Research Council's plans to rehabilitate the former Lorado uranium mill in the northern part of the province.
- Prairie Green Renewable Energy's proposal to build an ethanol manufacturing facility near Hudson Bay, Sask.

The government judged the assessments as unnecessary due to overlap with provincial or regional regulators.

Environment minister unveils coal-fired electricity emission standards

Canadian Press – Federal Environment Minister Peter Kent unveiled a weaker version of Canada's regulations to reduce greenhouse gas emissions from the coal-fired electricity sector, saying the lower performance standards reflect the fact that Canada is still operating in a "fragile" economy.

In the preliminary version released in August 2011, Kent proposed that new coal plants will only be permitted to emit less than 375 tonnes of carbon dioxide per gigawatt 1000 megawatts hour of electricity generated.

The plan, however, was met with some resistance from private industry and premiers, and after a year of negotiations, the restriction for new plants was loosened and raised to 420 tonnes.

After receiving more than 5,000 responses, government experts went back to the drawing board. In addition to the relaxed performance standards, the new regulations also allow more time for old plants to meet the new revised standards. Existing coal plants will now have 50 years to get their facilities up to code, instead of the originally proposed 45 years.

Overall, the revised regulations will give provinces greater flexibility in how they manage their coal-fired electricity – something some provinces, such as Saskatchewan and Alberta that are heavily dependent on coal for electricity, have said they need.

Despite the economic arguments proffered by Saskatchewan and Alberta, however, many environmental groups warn that weaker environmental resolutions carry "considerable" hidden costs.

In a report that was published in June, Pembina Institute, a climate change policy analyst which has been very critical

of Ottawa's sector-by-sector approach to reducing greenhouse gases, said kowtowing to industries means putting the health of Canadians at risk.

The report looks at how pollutants released from coal-fired electricity generation, as well as other types of pollution such as mercury, can lead to abnormalities in cardiovascular and neurocognitive development in children.

MINING

K+S potash mine forges ahead

Moose Jaw Times-Herald - K+S Potash Canada has taken no heed of the announcement that BHP Billiton won't approve any new projects in the 2013 fiscal year.

Officials of the K+S Legacy mine northeast of Moose Jaw say it's full steam ahead.

"It's looking great. We've just recently hired our 100th employee this week for K+S Potash Canada and those numbers are going to continue to grow bigger and bigger," said Christine Stass with K+S.

"They're doing a fair amount of groundwork just to prepare for the future structures that will be on the site. They'll be continuing to drill those production wells that will eventually be used for potash extraction. And we're continuing to build our water facilities and pipelines."

Stass also added that because K+S doesn't have other potash projects under way that are quite as big as the Legacy mine, it is eager to begin production.

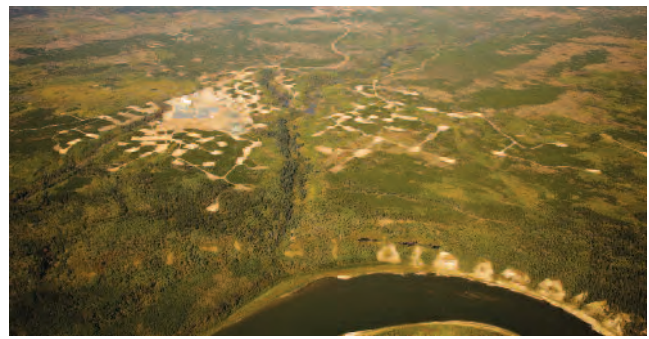
Stass said estimated first production runs for the Legacy mine remain slated for late 2015.

Moving closer to opening Sask diamond mine

CTV Saskatoon - Saskatchewan has achieved another milestone in the work toward a provincial diamond mine. Shore Gold has submitted a revised environmental impact statement to provincial and federal regulators. The study describes the potential environmental and socio-economic effects of the multi-billion dollar project at the Fort a la Corne site, about 60 kilometres east of Prince Albert.

Now that the revised environmental impact statement has been submitted, Shore Gold says it will work at completing all federal and provincial requirements for the project and securing financing for the operation. The hope is still to begin construction in the third quarter of 2012.

A feasibility study estimates the Star Orion project could yield 35 million carats worth of diamonds.



The company drilled the Star kimberlite in 1996. (Kimberlite is the raw material from which diamonds are extracted.) Sampling was expensive. The Star kimberlite lies beneath 100 metres of rock. To extract a representative sample, the company had to gain access from underground.

In early 2005, Shore announced it had recovered a 3,000-ct parcel of diamonds valued at \$130 per carat.

The kimberlite will be mined by open pit methods, although 100 metres of rock will need to be removed to expose it. The Star pit will be exposed and mined first in four phases over 12 years. Then the Orion South pit will be mined in two phases over eight years, for a 20-year mine life.

The pre-production costs for the project have been estimated to total \$1.9 billion. That figure breaks down into \$348 million for mine development, \$626 million for mine equipment, \$341 million for the processing plant, \$208 million for infrastructure, \$7 million for auxiliary site equipment and \$247 million for indirect construction costs. The total also includes a contingency fund of \$142 million.

Sustaining capital over the life of the project is estimated at \$590 million, bringing the total capital expenditure to \$2.5 billion.

Could Canada be the 'next big thing' in lithium mining?

Green Technology Solutions - As rising global demand for lithium-ion batteries drives lithium prices higher and higher, companies are exploring new opportunities in what could be the world's next lithium hotspot: Canada.

Lithium mining activities have drawn significant investing interest to Canada's mining industry recently. Nova Mining announced the acquisition of mining concessions in Saskatchewan, and Canada Lithium Corp. is exploring an open-pit mine and processing plant in Quebec.

The demand is being driven by increasing usage of lithium-ion batteries in everything from iPads to electric vehicles. Some industry veterans predict that demand for the metal could increase 20 percent this year over last.

Calendar of Events



2012 Transportation Association of Canada Conference & Exhibition

October 14-17, 2012, Fredericton, NB
www.tac-atc.ca/english/annualconference

Women's History Month Reception

October 17, 2012, Regina, SK
www.reginawhm.ca

Tunnelling Association of Canada

October 17-20, 2012, Montreal, QC
www.tac2012.ca

2012 Power Smart Excellence Awards

October 18, 2012, Vancouver, BC
www.cagbc.org

Forming Our Future: American Concrete Institute

October 21-25, 2012, Toronto, ON
www.concrete.org/EVENTS/ev_upcoming_conventions.htm

15th Canadian National Conference on Drinking Water

Canadian Water & Wastewater Association
October 22-24, 2012, Kelowna, BC
www.cwwa.ca/drinkingwaterconference_e.asp

Developing the Skills of Highly Effective Leaders The Banff Management Course

October 24-27, 2012, Banff, AB
www.banffmanagementcourse.com/

Rediscover Concrete Seminar

October 30, 2012, Winnipeg, MB
www.cement.ca

APEGS Continuing Professional Excellence Opportunity

November 1-2, 2012, Moose Jaw, SK
www.apegs.sk.ca

2012 Water Quality Technology Conference and Exposition

November 4-8, 2012, Toronto, ON
www.awwa.org

ASHRAE 7th International HVAC Cold Climate Conference

November 12-14, 2012, Calgary, AB
www.ashrae.org/events/page/coldclimate2012

Fire Protection in Buildings Seminar

November 28, 2012, Regina, SK
[www.collegeofcontinuinged.dal.ca/Continuing Technical Education](http://www.collegeofcontinuinged.dal.ca/Continuing%20Technical%20Education)

Electronic Materials and Applications 2013

January 23-25, 2013, Orlando, Florida
www.ceramics.org/meetings/electronic-materials-and-applications-2013

APEGS Annual Meeting

May 3-4, 2013, Regina, SK

Engineering for Global Sustainability

May 27-29, 2013, Montreal QC
www.cctc2013.ca

Canada Green Building Council National Conference and Expo 2013

June 4-6, 2013, Vancouver, BC
www.cagbc.org