

Crane & Hoist

The Business Of Heavy Lifting

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CRANES ON A QUEST

Cranes rule Canada's underground

Cranes, hoists and even hoist-bearing helicopters play large roles in extracting the mineral riches of the hinterlands

SAUL CHERNOS

We all know big machines rule the roost in urban centres, where construction seems never-ending. But check out Canada's hinterlands, where caribou herds run wild and a hot Saturday night means a deck of cards and Shania Twain on the radio, and you'll find cranes and other lifting devices rocking the country's underground and open-pit mines.

The vast Canadian north abounds in riches, from copper and nickel to silver and gold, and cranes and hoists are essential to extracting it from the ground.

Northern Ontario is a classic example.

"There's no location (there) that's not actively pursuing some mining activity, or some mining company that's not recharging its batteries again," says Dick DeStefano, executive director of the Sudbury Area Mining Supply and Service Association.

DeStefano estimates annual revenues from mining operations last year in northern Ontario at \$10 billion, with a swath of new explorations and expansions. And, while the army of people doing actual mining is 9,000 to 10,000 strong, it's cranes and hoists doing the heavy lifting.

The machines are ubiquitous, found pretty much throughout the entire mining operation, says Roy Slack, president of Cementation Canada, a hard-rock underground mine contractor based in North Bay.

Bridge cranes are particularly common in shops and other maintenance facilities, Slack says. Depending on the mine, these machines range from 10 to 60 tonnes capacity. Bridge cranes between 20 and 30 tonnes, and sometimes higher, are often used to move hoist ropes and

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A crane lowers a galloway, a working platform that can have several working decks, into a mine shaft to continue the sinking process.

Photo courtesy of Cementation Canada Inc.

CONFERENCE COVERAGE

Harmonize safety across Canada

Alberta crane conference concludes

Panel discussion climaxes two-day conference on crane and rigging at Edmonton's Fantasyland Hotel in October

KEITH NORBURY

The subject of harmonizing crane and hoist regulations proved to be too big for just western Canada.

While that was the topic of a panel discussion at crane and rigging conference this October in Edmonton, by the time the session was over, a consensus emerged that harmonization should extend across the country.

"What about you guys? You want this Canada wide?" said Judy Mellott, president of All Canadian Training Institute, one of

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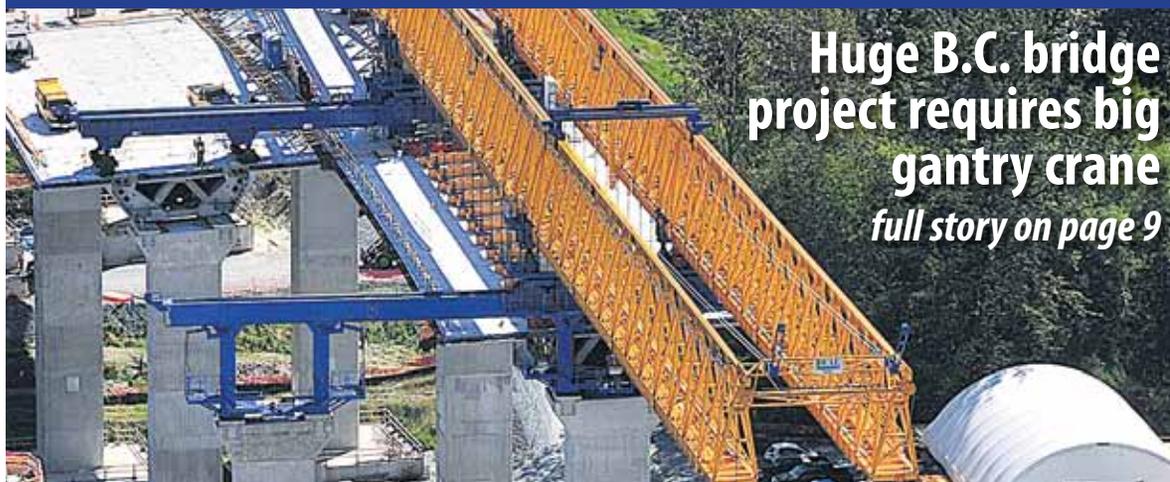


A panel of industry experts and government representatives discuss the harmonization of crane and rigging regulations in western Canada and beyond.

Panelist members are (back row, from left) Oreste Simonetta of the Canadian Standards Association; Mike Parnell, president of ITI Field Services; Matthew Eckstine of Eckstine & Associates safety training consultants; Dan Kennedy, Alberta assistant deputy minister for its new human services ministry; Don Hurst, assistant deputy minister for Manitoba's department of labour and immigration; Fraser Cocks, executive director of the B.C. Association for Crane Safety; (front row, left to right) Al Thurston of Trans-Canada Pipeline; Daryl Harvey of Cenovus Energy; Dale Sykora of Halliburton; John Tate of Flint Energy; and Judy Mellott of All Canadian Training Institute.

Photo by Keith Norbury

INTENSIVE INFRASTRUCTURE



Huge B.C. bridge project requires big gantry crane
full story on page 9

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2011 CRANE AND RIGGING CONFERENCE COVERAGE

Harmonize safety across Canada Alberta crane conference concludes

Photo by Keith Norbury

Continued from page 1

the conference's event partners, to applause to close out the panel discussion.

That proved to be the climax of the two-day conference held at Edmonton's Fantasyland Hotel. Maximum Capacity Media — the Arizona-based publishers of *Crane Hotline*, *Lift and Access*, and *Industrial Lift & Hoist* — hosted the conference and graciously allowed Crane & Hoist Canada to take part as media sponsor.

The event featured more than a dozen presentations. They started with a talk by Fraser Cocks, executive director of the B.C. Association for Crane Safety, on how that province developed its comprehensive crane operator accreditation program. And they ended with a discussion on a new federal law requiring third-party verification or auditing of training programs by Lisa Olver, president of KOLO Safety Inc. and who happens to be one of Mellott's three daughters.

In between, the approximately 160 delegates took in presentations on critical lifts, lessons learned from sling failures, the intricacies of wire rope, the challenges of rehabilitating aging cranes, and integrating a radio control system, among others.

The climax of the conference occurred near the close of the panel discussion following a testy exchange between Mellott and audience member Knut Buschmann, president of Unirole Ltd. He was critical that conference organizers had focused attention on western Canada. While Buschmann, who is based in Ontario, said he supports harmonization 100 per cent, he added: "I think you do yourself a disservice if you really limit this for the four (western) provinces only."

Mellott agreed and said later, "Ontario, get your buckets out here. Let's get busy." Buschmann said he would take it up with his Ontario colleagues but stressed that he didn't speak for the province.

"So please don't make me responsible for this. I don't appreciate how you talk," he said. To that, Mellott responded: "I'm saying, you are a voice that is commanding in Ontario. You can bring this part to where all of Canada

"That word 'national' is wonderful, absolutely wonderful. But 'international' really intrigues me ..."

— Dale Sykora, Halliburton

"Industry created the problem. It's up to us to fix it."

— Daryl Harvey, Cenovus Energy

comes together."

As Ironworkers apprentice Bob Bailey pointed out, none of the panelists opposed harmonization, which made him wonder, "Why did we have this discussion?"

Panelist Daryl Harvey of Cenovus Energy, said it wasn't trainers, who created the problem, as Bailey alleged. "Industry created the problem," Harvey said. "It's up to us to fix it."

One point of contention on how to fix that involved the role of legislation. Harvey and others said that standards must form the foundation for legislation. "Without that foundation, everybody is going in their own direction and we're headed for trouble," Harvey said.

On the other hand, panelist Al Thurston, now with Trans-Canada Pipeline but who formerly worked as an occupational health and safety regulator with the Alberta government, cautioned that it takes a long time to develop regulations. "You can short-circuit that quite easily by your association developing an internal standard becoming a best practice and promoting that within and with your contractors and owner-operators," he said.

Panelist Dale Sykora, of multinational oilfield services giant Halliburton, captured the emerging mood when he said: "That word 'national' is wonderful, absolutely wonderful. But 'international' really intrigues me from being a part of a global company. It would be nice to be able to send a rigger, say, over to Russia and be able to know that that person at least meets that requirement. Because we do that: We send people to Norway for six weeks and then back here, both in the manufacturing and in the operational side. It would be nice to see that. And Canada leading the way: Why not?"

Also on the panel were: Fraser Cocks of the B.C. Association for Crane Safety; Don Hurst, assistant deputy minister for Manitoba's department of labour and immigration; Dan Kennedy, Alberta assistant deputy minister for its new human services ministry; Matthew Eckstine of Eckstine & Associates safety training consultants; Mike Parnell, presi-

dent of ITI Field Services; Oreste Simonetta of the Canadian Standards Association; and John Tate of Flint Energy.

During breaks between the presentations, delegates had the opportunity to peruse a mini-expo featuring displays from a variety of vendors, including Load Systems International, which sponsored the conference's lunches, associate sponsors Columbus McKinnon and Continental Chain & Rigging, as well as Wireco, the Crosby Group, DICA Out-rigger Mats, Kito, Unirole, InfoChip Systems Inc., Sling Tech, ropeBlock, Water Weights, Flint, Titan Supply, and Titan Rigging Products.

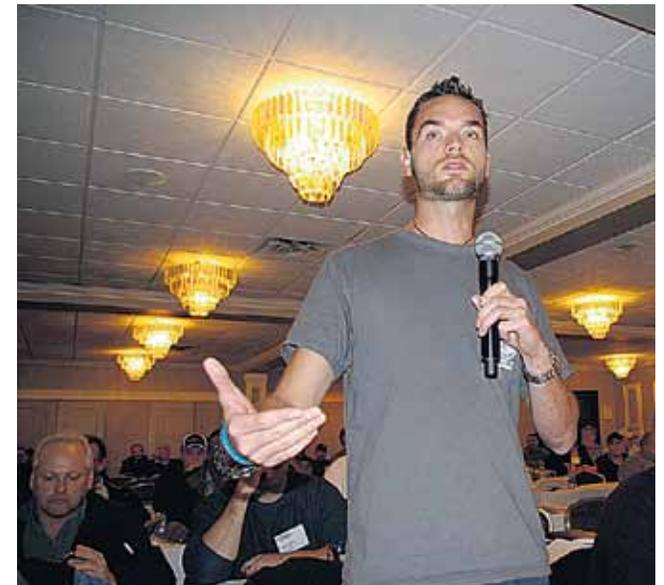
The conference was deemed such a success that moderator Richard Howes, associate publisher and editor with Maximum Capacity Media, announced that a second conference will take place next fall at the same location.



Lisa Oliver says 100 per cent of workplace accidents in the province of Alberta are preventable.



Fraser Cocks, executive director of the B.C. Association for Crane Safety, reveals how that province accredited its crane operators.



Ironworkers apprentice Bob Bailey questions the panel at the Crane and Rigging Conference.

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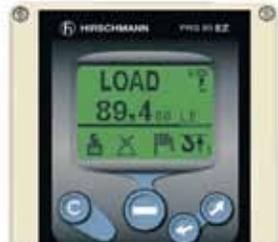
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2011 CRANE AND RIGGING CONFERENCE COVERAGE

Sling safety stressed at Alberta conference

Ensuring that slings are free of damage is of paramount importance, but whether a Sharpie marker can cause such damage is a point of debate

KEITH NORBURY

The worst fate that could ever befall a manufacturer happened to Mike Gelskey Sr. nearly 20 years ago: One of his products — a four-inch wide, two-ply four-foot long sling — was blamed for killing a worker on a job site.

"That is exactly what happened to Mr. Rodney Armstrong Guy on March 20, 19 and 92 in Rio Vista, California," Gelskey, the President and CEO of Los Angeles-based Lift-It Manufacturing, said during a powerful presentation titled "Lessons Learned from Sling Failures", which he delivered at Maximum Capacity Media's crane and rigging conference in Edmonton in October.

In recounting the events of that fateful day, Gelskey chronicled a sequence of safety violations that, in hindsight, led to the death of the 32-year-old lineman as he attempted to clip a 550-kilovolt line to a transmission tower. Yet a subtext of Gelskey's talk, and one which ran through most of the presentations at the Oct. 12-13 conference, is that workers continue to cut those kinds of corners. Usually, they get away with it. Unfortunately, that encourages similar risky behaviour. And when things go wrong, they wrong terribly.

"It hit me like a ton of bricks about 30 years ago that it really didn't matter how good a product anyone builds, if people don't know how to use them properly, it really doesn't matter," said Gelskey, who has been in the sling and rigging business for 38 years and is the current president of the Web Sling and Tie Down Association.

Yet exactly how far one should err on the side of caution also came into question.

During his presentation, Allan Taschuk, who is in charge of corporate compliance services with Continental Chain & Rigging, said the chemicals in the ink of a popular marking pen could damage a synthetic sling. Taschuk said he has a letter from the makers of the Sharpie marker that warns "their products contain xylene and are not recommended for use on webbing products."

Gelskey, who was then in the audience, challenged that notion, saying that technical analyses by two webbing mills had found no deleterious effects from the markers on synthetic slings. That was also the consensus of about 70 manufacturers, he said.

"What's happening is we're getting some information that's been bastardized from the fall-prevention industry that is kind of seeping over because depending on which way the wind's blowing sometimes factory reps will say, you mark on that harness with my marking pen and you're out of here, Bud," Gelskey said.

Taschuk said he was unaware of that testing and would look into it. However, he reiterated what Sharpie said in the letter. "And the word(s) 'may contribute to' leaves a lot of doubt for a lot of people. So at the end of the day, it's up to the user to decide. It's your rigging," he said.

Taschuk also called into question the lack of credentials and training that trainers themselves receive.

"Currently there are no accreditations or requirements to become a trainer for rigging, inspections or overhead crane use," he said, adding, "Someone has been in the business for one year and they know all it takes to be a trainer. That's happening." He would like to see a program similar to a code Alberta recently adopted for home inspectors.

On the other hand, Taschuk offered a glimmer of hope that harmonization of regulations is underway. He noted, for example, that Alberta, B.C., and Manitoba have adopted American Society of Mechanical Engineers standard B30.9, which applies to many common types of slings, including alloy steel chain, wire rope, and synthetic webbing and fibre.

"We're looking for the other provinces, and territories, to join so that we can have harmonization on rigging, on training and on everything else that we get involved (in) as far as our program in the industry," Taschuk said.

Gelskey followed up his Oct. 12 morning presentation with a "Rigging Masterclass" session that afternoon. Again, he sprinkled his presentation with visual examples of questionable practices, such a photo from the Rocky Mountain News depicting a rigger sweeping underneath a 20-ton hyperbaric chamber held by two narrow slings about six feet off the ground. Photos also summarized the carnage of a New York sling disaster that cost seven lives, countless injuries and \$900 million to \$1.3 billion in damage for want of spending \$160 to replace four worn-out slings.

A recurring message from Gelskey is that even a tiny nick can greatly reduce the capacity of a synthetic sling. But his presentation wasn't all about doom and gloom. He offered precise advice on how to inspect sling systems to guard against calamities. That includes initial, frequent and periodic inspections. For example, with respect to frequent inspections, occupational health and safety regulations state that "each day before being used, the sling and all fastenings and attachments shall be inspected for damage and defects by a competent person designated by the employer," according to one of the slides in Gelskey's presentation.

To Gelskey the choice is clear. Referring to a photo of the sling that broke in the accident that killed lineman Rodney Guy, Gelskey said, "There's some serious structural damage. And if you're honest with me, you might say, 'Hey, you know what Mike? I've used a sling like that a time or two.' And you know what I'm going to say to you? 'Ohhh, buddy, you have been so lucky thus far. But at some point your luck's going to run out, OK.'"

It was on a similar note that Lisa Olver wrapped up the conference. One of three daughters of Judy Mellott, Olver runs her own training company, KOLO Safety Inc., in Alberta.

She slammed the Alberta government for failing to comply with a new federal law requiring third-party verification or auditing of training programs. As a result, she

said, 100 per cent of workplace fatalities in the province were preventable.



Mike Gelskey, president and CEO of Lift-It Manufacturing, uses a visual aid during his rigging master class, the second of his two presentations at the conference.



Allan Taschuk of Continental Chain & Rigging talks about the importance of rigging gear inspection during his presentation.

Photos by Keith Norbury



When this sling broke in 1992, it resulted in the death of a lineman working on a transmission tower in California.



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2011 CRANE AND RIGGING CONFERENCE

Safety tips plentiful at Alberta conference

KEITH NORBURY

Presenters at a crane and rigging conference in Edmonton in October offered plenty of advice that operators of any kind of heavy-lift equipment can take back to the workplace.

Their advice ranged from the simple, such as folding a sling over a hook to prevent the sling from bunching and losing its strength, to a discussion of the impact of the D/d ratio on sling capacity. Mike Riggs, president of the Rigging Institute, covered both those areas and more in his presentation. The big "D" stands for the diameter of load while the little "d" stands for the diameter of the sling wrapped around the load. The optimum ratio depends on the type of the sling, including the material. A wire rope sling, for example, should have a D/d ratio of at least six-to-one, which translates into 80 per cent of the capacity of the sling, Riggs said.

Calculating the impact of the D/d ratio becomes much more complex, though, with chain slings and will even vary greatly depending on whether one or two links is in contact with the D. Another serious consideration is the impact of the size of the D/d ratio on capacity on slings wrapped around the edges of bulky objects. While a ratio of six-to-one or more enables 100 per cent of rate capacity, that capacity drops to 60 per cent with a D/d ratio of two. Anything less than two isn't even recommended.

Following the manufacturer's recommendations proved to be another variation on the safety theme. While more than one presenter mentioned encountering objections that such cautions and specs are sales gimmicks, Mike Gelskey Sr., the president and CEO of Los Angeles-based Lift-It Manufacturing, pointed out that sling capacities aren't developed out of thin air. His company arrives at its sling capacities by subjecting slings to increasingly heavy weights until the slings snap.

The characteristics of modern wire ropes also demand careful understanding from those in the lifting vocations, as made clear during the presentation from Dr. Frank Jauch, of WireCo WorldGroup. Not the least of those nuances are the differences between rotation-resistant ropes and non-rotation-resistant ropes. For example, the latter "must not be used with a swivel!" as one of Dr. Jauch's slides warned in red letters. Also dangerous are connecting wire ropes of different diameters or of different lay directions. Incorrect spooling on a drum and improper alignment in a wedge socket are two other examples he gave of hazards that will prematurely wear out a wire rope.

A new model of wedge socket, the S-423T Super Terminator, happened to be a subject of the talk by Curt Jabben, sales manager of crane products with the Crosby Group. The company recommends that the fasteners on the wedge socket be tightened to exact specs with a torque wrench. That led Ed Belder, who works for Calgary-based Stampede Crane and Rigging, to ask from the audience if it wouldn't be possible to "eyeball" the torque or if it was necessary to bring a torque wrench into the field in the event the rigging had to be changed. Jabben answered unequivocally that, yes, the torque wrench is required.

Let's just say that Jabben and Belder disagreed on the practicality of that. Yet it was another sign of the disconnect between abiding by the specifications to reduce the risks of an accident and the seemingly always-present pressure to get the work done quickly.



Mike Riggs, president of the Rigging Institute, explains the finer points of the D/d ratio of wire rope slings during his presentation at the conference. Photo by Keith Norbury



Curt Jabben, sales manager of crane products with the Crosby Group, talks about some of his company's innovations, such as a new model of wedge socket. Photo by Keith Norbury

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2011 CRANE AND RIGGING CONFERENCE COVERAGE

Edmonton conference impresses delegates

Variety of presentations offers plenty of learning for even the most experienced

KEITH NORBURY

Even delegates with decades of experience in the crane and hoist industries discovered at a recent crane and rigging conference in Edmonton that they still have plenty to learn.

John Egnatz, a crane operator with 32 years in the trade from Frankfurt, Ill., said he spent \$3,000 out of his own pocket to attend the Oct. 12-13 conference, which was hosted by Arizona-based Maximum Capacity Media at Edmonton's Fantasyland Hotel.

Egnatz praised the presenters for making themselves vulnerable and opening themselves up to questions.

While he works primarily on mobile cranes, Egnatz said he learned a lot from the presentation by Fred Wolsey, the systems engineer for cranes and hoists at Ontario's Bruce Power nuclear-power station. Wolsey explained in detail the challenges and successes of refurbishing the facility's aging overhead cranes to create "brand new" 40-year-old cranes.

"You see, I'm familiar with that because I've put up overhead cranes. I've put up a 350-ton ladle crane," said Egnatz, who had a chance to talk with Wolsey between the sessions.

Even a longtime trainer like Don Barron of All Canadian Training Institute said he learned new things from the conference.

"One of the things that really got my attention was the wet slings," Barron said, referring to a nugget from a presentation by Mike Gelskey Sr., president and CEO of Lift-It Manufacturing, that a synthetic sling loses 15 per cent of its lifting capacity when wet.

"How many riggers know that?" Barton said. "It's something I can take back to my courses."

Delegate George Kirton, a heavy equipment trainer with the International Union of Operating Engineers local 955 based in Alberta, rated the presentations as 80 per cent informative. "It gives us a North American or world perspective," Kirton added.

Mikita Kalita, a crane and hoist trainer at the Northern Alberta Institute of Technology, said he was impressed by a presentation on how weather and other factors can affect synthetic slings, adding that his institute has done similar testing.

One drawback for him was that the conference was "very much sales driven." On the other hand, the conference underscored the many "grey areas" in the industry, such as determining "who's competent," he noted.

For Annett Greier, who works in the auxiliary equipment department for Mammoet in Edmonton, her first impression was: "We need more women in that business." Nevertheless, she learned a lot in her area of expertise, rigging, such as advice from Gelskey to remove from service any sling that is damaged in any way.

About the only one of the 160 or so delegates who said he didn't learn anything was Knut Buschmann, president of Uniropo Ltd.

"Half of it I wrote myself," he said, referring to a conference presentation on D/d ratios by Mike Riggs, president of the Rigging Institute.

Buschmann was also critical of what he called the conference's local focus on western Canada.

"But all that aside," he said. "I'm happy I'm here anyway."



David Smith, president of Quebec City-based Load Systems International, oversees the company's display at the conference's mini-expo while director of sales Joel Francis (left) talks with an unidentified conference delegate.



Maurie Bergstrom (right) of Kito Canada talks with Annett Geier of Mammoet at Kito's booth at the conference's mini-expo.



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