

# ELECTRICAL BUSINESS

EBMAG.COM

The solutions you need,  
the quality you trust.

Find it all on page 5.

## INSIDE

- + Lighting player practises what it preaches
- + Learning from the industry's Best Managed companies
- + Indemnity clauses... where do I sign?

PM40065710

## WHAT DO YOU GET FROM ALMOST 1000 ELECTRICAL PLANS?

The Glen Site of McGill University Health Centre P.10

Enter for a chance to

**WIN** THE ULTIMATE TROPHY SALMON FISHING TRIP TO RIVERS INLET IN B.C.  
(Approximate total retail value \$10,000 CAD)

AND MORE!

Contest runs from June 27th to September 18th, 2016. \*Some restrictions may apply.

To enter and for complete rules and regulations visit [ScepterRewards.ca](http://ScepterRewards.ca)



---

# THIS IS MORE THAN LIGHT

LEDVANCE is your new, yet trusted partner for SYLVANIA general lighting products and beyond – worldwide and with local expert teams.

For us, advancing light is more than a promise: It's an attitude.

Discover the complete line of SYLVANIA LED luminaires. Straightforward products with proven performance, from a brand you can trust. No frills, just quality.

For more information, visit [www.sylvania.com/luminaires](http://www.sylvania.com/luminaires)



**LEDVANCE**

PRODUCT LICENSEE OF  
TRADEMARK SYLVANIA IN  
GENERAL LIGHTING





from the **EDITOR**

ANTHONY CAPKUN

## In search of guerrillas

**E**ven though we're based near Toronto, Ont. (which is not, I readily admit, the *actual* centre of the universe), regular readers of Electrical Business Magazine—and especially regular visitors to EBMag.com and @EBMag—know that we cover as many industry events across the country as possible... and a few outside of our borders, too.

In just the past few months, we've been to Germany for the massive Light + Building trade fair, San Diego for Lightfair International, Red Deer for Alberta Electrical League's Learning Expo, the MEET Show in Moncton, Edmonton for the IEEE IAS Mega Projects workshop, Halifax for Electro-Federation Canada's annual conference... and the list goes on.

We do this to bring you perspective and insight into our electrical industry that will, hopefully, make you better power professionals. Knowledge of new technologies, solutions, business practices, etc., can only help you get better and give you the edge in a competitive market.

**I need your help in continuing to tell the ever-expanding story of Canada's electrical industry.**

And let's be honest: sometimes it's nice knowing what's going on across Canada, if only for the sake of knowing.

But we can't be everywhere, and that's where YOU come in. I need YOUR help in continuing to tell the ever-expanding story of Canada's

electrical industry.

Many of you attend/host events we simply cannot get to, so I invite you to send me a report of what you see and experience. It could take the form of a couple hundred words in an email, or a photo gallery, or some video, or any combination thereof.

Maybe you're tweeting from an event. That's great! When you do, please hashtag #EBMag, and we'll see it and pick it up.

Some of you are already publishing news on your own social channels. Take that initiative a step further and put your news and information in front of a bona fide professional electrical audience through Electrical Business, where you will be fully credited as the creator.

Whatever form of report you submit, and whatever the event or newsworthy item, we will review it to ensure it meets our editorial criteria and mandate, then publish it in the best-suited form(s), be that the magazine, website, our YouTube channel, or what have you.

Please join our storytelling community! **EB**

acapkun@annexweb.com

# CONTENTS

JULY 2016 || VOLUME 52 || ISSUE 7



## 10

### Inside McGill University Health Centre's newest head-turner

From a pneumatic tube system behind the walls to robotic dispensing machines, Glen Site at McGill University Health Centre goes well beyond its simple Lego-like exterior appearance. See what general contractor SNC-Lavalin has to say about the 346,150-square metre complex.

## 14

### Lighting player practises what it preaches

Standard Products embarked on a plan to incorporate "sustainable lighting and energy management practices" into its Saint-Laurent, Que. warehouse in August 2015. Besides striving for improved workplace safety, and energy and cost savings, the relamping project served as an in-field demo for customers of the company's lighting options.

## 18

### Best Managed seal "Ensures we're doing what we say we're doing"

"Best Managed companies embrace innovation, seize opportunities and inspire talent. They really set the bar high," said Peter Brown of Deloitte, who co-leads Canada's Best Managed Companies program. We take a deeper look at what the Best Managed companies in the electrical industry are doing right.

#### COLUMNS

##### 8 Legal Desk

*Indemnity clauses... where do I sign?*

##### 26 Code File

*CE Code Rule 2-100 "Marking of equipment"*

#### DEPARTMENTS

##### 4 Industry News

##### 8 Calendar

##### 16 Letters

##### 22 Personalities

##### 22 Products & Solutions

##### 24 Code Conundrum

## MEET Show 2016 winners and innovators



Rep'ing Team NB is Joey Bard (centre), who won Gold. The other medalists include Sam Gallant (Silver, right) and Byron Brown (Bronze, left). PHOTO A. CAPKUN.

We wrapped up yet another successful MEET Show ([www.meetshow.ca](http://www.meetshow.ca)) in Moncton, N.B., welcoming over 6000 attendees

## EXCLUSIVELY AT EB MAG.COM

 Niagara-on-the-Lake Hydro (NOTLH) is taking an interesting, hands-on approach to studying the impact electric vehicle (EV) charging has on the grid and how to successfully monitor and balance that load. As part of the recent Energy Summit 2016 in Niagara Falls, EBMag attended an on-site tour with NOTLH to get a better look at its IEVCS (Intelligent Electric Vehicle Charging Solution) project. *Catch the details here: [tinyurl.com/ju75o3b](http://tinyurl.com/ju75o3b).*

EBMag headed out to Kitchener, Ont. to browse through Westburne's Showcase Tradeshow, catching up with some of their supplier partners. The event also featured a full day of seminars, which tapped into topics like digital tools, automation panel design, and equipment life extension, among many others. *See the gallery at [tinyurl.com/hu8cqhl](http://tinyurl.com/hu8cqhl).*

For the latest industry news, reviews, products, stories and people in the electrical industry, go to **EBMAG.COM**

to the largest mechanical, electrical, plumbing show in the Maritimes. As the Official Electrical publication for the show, we put in a lot of hours producing the Official Show Guide and, new for 2016, the MEET Show app (for Android and iOS)!

The MEET Show was again the stage for Skills Canada-NB's Electrical Competition ([skillscanada.nb.ca](http://skillscanada.nb.ca)). Representing Team NB was Joey Bard, who won Gold. The other medalists include Sam Gallant (Silver) and Byron Brown (Bronze).

Meantime, Electro-Federation Canada bestowed its Innovation Award upon Stelpro ([www.stelpro.com](http://www.stelpro.com)) for its 4000W KI smart home thermostat. And Illuminating Engineering Society Maritime Sections honoured Beghelli Canada ([beghellicanada.com](http://beghellicanada.com)) with an Innovation Award for its Pluraluce emergency light. *Check out more of our photos at [tinyurl.com/gpx3adx](http://tinyurl.com/gpx3adx).*

## Greenlee Textron pledges \$100K for Fort Mac relief & recovery

"I would like to extend my sincere sympathy to those affected by the wildfires that are causing so much devastation in the Fort McMurray [...] vicinity." So begins the letter dated May 19 to Greenlee customers from J. Scott Hall, president, Textron Industrial Segment & Greenlee. But wait... it gets better.

"We strive to provide support and help whenever it is needed in our customers' communities. Alberta is one of our largest Canadian markets, largely due to sales in the Fort McMurray area. Regrettably, many of these customers have employees who have lost their homes in this fire."

"Textron and its subsidiaries, including Greenlee ([www.greenlee.com](http://www.greenlee.com)), have pledged \$100,000 US dollars to support local relief and recovery efforts. It is our hope that you can join us in providing relief to this very worthy cause. The places we do business are important to our industry and us all." **EB**

Visit [EBMAG.COM](http://EBMAG.COM) for the latest news, stories, products, videos, photo galleries and industry events.



### NEED HELP PROSPECTING?

Has Canadian Anti-Spam Legislation reduced your email prospects list? **EBMAG'S NEWSLETTER** reaches 14,800 CASL-compliant subscribers, and it does so every week!

VISIT [EBMAG.COM/ADVERTISE](http://EBMAG.COM/ADVERTISE)

# ELECTRICAL BUSINESS

July 2016 || Volume 52 || Issue 7

ELECTRICAL BUSINESS is the #1 Canadian resource for electrical contractors, maintenance & engineering professionals, distributors, manufacturers and their agents, and associated stakeholders.

**Editor** Anthony Capkun  
[acapkun@annexweb.com](mailto:acapkun@annexweb.com)

**Group publisher** John MacPherson  
[jmacpherson@annexweb.com](mailto:jmacpherson@annexweb.com)

**Account manager** Deborah Taylor  
[dtaylor@annexweb.com](mailto:dtaylor@annexweb.com)

**Account manager** Melanie Kirk  
[mkirk@annexweb.com](mailto:mkirk@annexweb.com)

**Assistant editor** Renée Francoeur  
[rfrancoeur@annexweb.com](mailto:rfrancoeur@annexweb.com)

**Art director** Svetlana Avrutin  
[savrutin@annexweb.com](mailto:savrutin@annexweb.com)

**Account Coordinator** Kathryn Nyenhuis  
[knyenhuis@annexweb.com](mailto:knyenhuis@annexweb.com)

**Circulation manager** Urszula Grzyb  
[ugrzyb@annexbizmedia.com](mailto:ugrzyb@annexbizmedia.com)

**Director of soul/COO** Sue Fredericks



Published by Annex Business Media  
222 Edward Street, Aurora, Ontario L4G 1W6  
Tel. 905-727-0077 • Fax 905-727-0017

Printed in Canada  
ISSN 0013-4244

Publication Mail Agreement #40065710

### Circulation

email: [stelian@annexnewcom.ca](mailto:stelian@annexnewcom.ca)  
Tel: 416 442 5600 ext. 3636  
Fax: 416-510-5170  
Mail: 80 Valleybrook Drive, Toronto, ON M3B 2S9

### Subscription rates

Canada: Single issue \$7.00  
12 issues: \$35.95  
USA: \$62.95 (US)  
International: \$76.00 (US) per year

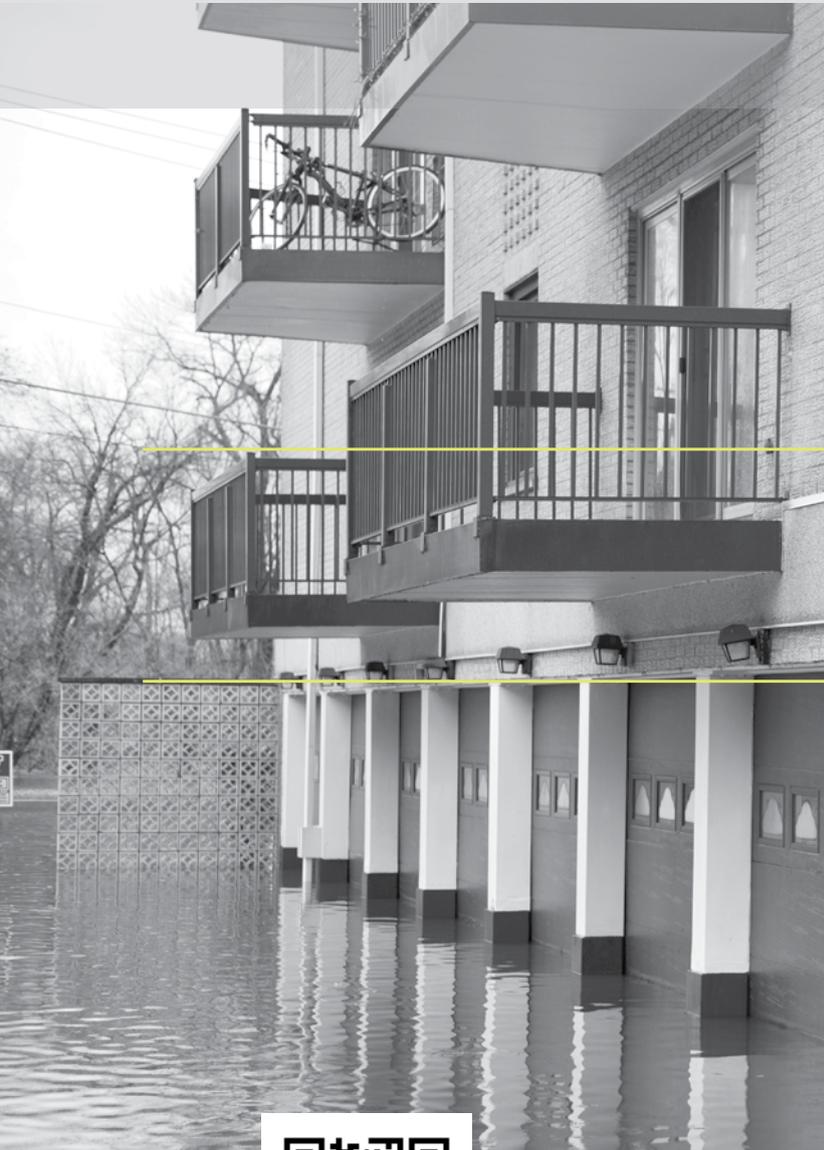
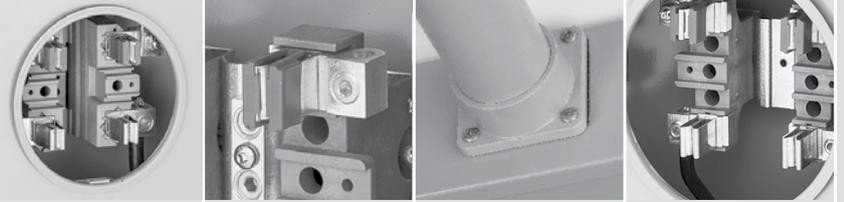
Occasionally, Electrical Business will mail information on behalf of industry related groups whose products and services we believe may be of interest to you. If you prefer not to receive this information, please contact our circulation department in any of the four ways listed above.

The contents of Electrical Business are copyright ©2016 by Annex Publishing & Printing Inc. and may not be reproduced in whole or part without written consent. Annex Publishing & Printing Inc. disclaims any warranty as to the accuracy, completeness or currency of the contents of this publication and disclaims all liability in respect of the results of any action taken or not taken in reliance upon information in this publication.

We acknowledge the [financial] support of the Government of Canada.

Canada





# Microelectric® CO Series Meter sockets

Meet code requirements  
for above-ground  
main breaker access.

In response to changes in the Canadian Electrical Code and the increasing demand for outdoor, above-grade electrical service disconnection, Thomas & Betts has expanded the Microelectric® CO Series combination meter socket and breaker unit family.

With the addition of four new units, the Microelectric® CO Series now includes a full range of single- and multiple-position models with main breaker options of 60, 70, 100, 125, 150 and 200 A. All units are manufactured in Canada and are CSA certified for use in all Canadian provinces.

Download the brochure at [www.tnb.ca](http://www.tnb.ca) or simply scan the QR code.



Microelectric® CO Series.  
The most complete range of combination  
meter sockets and breaker units.

Microelectric®. The solutions you need, the quality you trust.



## Electrical worker falls; M-B Oakville Autohaus fined \$65,000

M-B Oakville Autohaus, also known as 1747808 Ontario Ltd., pleaded guilty and has been fined \$65,000 after an employee of an electrical company was seriously injured in a fall of almost 22 ft.

The injured young worker, an employee of Andrea Electrical Service Ltd., was working at the defendant's Mercedes Benz car dealership in Oakville, Ont. on February 4, 2014, and using a skyjack supplied by the defendant. The skyjack was knocked over by the opening sprinter bay door, as the power had been left on, Ontario's Ministry of Labour reported, causing "serious injuries" to the worker still on it.

Neither the defendant nor the workers themselves had locked and tagged out the electrical installation, and the defendant failed to acquaint the workers from Andrea Electrical Services Ltd. of the hazard of the overhead door opening when using a skyjack in the sprinter bay, contrary to Section 25(2)(d) of the Occupational Health and Safety Act.

Andrea Electrical Services Ltd. pleaded guilty and was fined \$25,000 on June 22, 2015, for failing to ensure equipment that could endanger a worker had been locked out.

M-B Oakville Autohaus was fined \$65,000 for the safety violation in Milton provincial court on May 24, 2016.

## Ontario Skills 2017 moves from Waterloo to Toronto



Gail Smyth of Skills Ontario accepts a message of best wishes from the City of Toronto via the west deputy mayor, Vincent Crisanti. PHOTO R. FRANCOEUR

Skills Ontario ([www.skillsontario.com](http://www.skillsontario.com)) says the Ontario Technological Skills Competition (OTSC) is the largest skilled trades and technology competition in Canada, adding it is "thrilled to announce that the event will be moving to the Toronto Congress Centre in 2017".

Hosted at RIM Park in Waterloo, the competition features 67 contest sites,

44 elementary challenges and workshops, a career exploration showcase, 2200 competitors from across Ontario and over 20,000 spectators.

"The current space is so limited that a waitlist for space started in January," said Gail Smyth, executive director of Skills Ontario, adding the parking lot is full of tents for events.

Associated events—such as the OTSC closing ceremony and Young Women's Conference, which are currently hosted offsite—will now also be hosted at the congress centre.



See [tinyurl.com/gpm5xuy](http://tinyurl.com/gpm5xuy) for a video on the announcement.

## JMC Steel Group becomes Zekelman Industries

JMC Steel Group has announced that it is changing its corporate name to Zekelman Industries Inc. Zekelman ([zekelman.com](http://zekelman.com)) is the parent company of Atlas Tube, Wheatland Tube, Sharon Tube, Picoma and Energex Tube. The company says each of these business units will continue to operate under its existing brand name.

"The change of name and identity signifies my, and my family's, commitment to our business, customers, team members and suppliers," said Barry Zekelman, CEO of Zekelman Industries.

Zekelman Industries claims to be the largest independent manufacturer of hollow structural sections (HSS) and steel pipe, and the top producer of electrical conduit and elbows, couplings and nipples in North America.

## Bronze CIGan win for Georgian College's electrical programs

Georgian College's Electrical Engineering Technician and Technology programs took home the bronze as part the 2015-2016 Colleges and Institutes Canada (CIGan, [collegesinstitutes.ca](http://collegesinstitutes.ca)) Program Excellence Awards.

"Georgian is proud to offer high-quality programs, co-op experiences, and to have established one-of-a-kind partnerships in the electricity sector that are of great benefit to students and employers," said MaryLynn West-Moynes, president and CEO of Georgian College.

According to the college, examples of these partnerships include PowerStream, Toronto Hydro, Ford Motor Company of Canada, Honda of Canada Manufacturing, and more.



Derek Martin, a professor at Georgian, accepts the CIGan award from Denise Amyot, CEO of Colleges and Institutes Canada. PHOTO COURTESY GEORGIAN COLLEGE.

"Each of our partnerships helps to ensure current technologies are embedded in our curriculum and classrooms, and provides ample opportunities for students and graduates to meet and learn from prospective future employers," added Kevin Weaver, dean of technology and visual arts.

Georgian ([www.georgiancollege.ca](http://www.georgiancollege.ca)) noted its electrical engineering programs are filled to capacity every year and 190 employers provided 570 work terms to electrical students in 2014-2015.

The school, based in Barrie, Ont., was recognized as part of CIGan's annual conference in Quebec City.

## Energized eHouse electrocutes Sunderland solar farm worker

An Ontario-based company specializing in power generation, controls and energy systems was found guilty and fined \$110,000 after a worker was electrocuted while working on a solar farm construction project in Sunderland.

Enerquest Services Inc. (Harrow, Ont.) was contracted to provide electrical switchgear equipment, controls and communication equipment in a prefab electrical building (eHouse) to the solar farm under construction. Electrical connection of the eHouse to the solar farm was to take place on a later date.

Ontario's Ministry of Labour reports the solar farm constructor notified Enerquest ([www.enerquestservices.com](http://www.enerquestservices.com)) of some deficiencies in the eHouse in December 2013, so Enerquest directed two workers to make the necessary corrections.

It is important to note that the workers

worked on or near energized exposed parts of electrical equipment, or of an electrical installation or conductor. The power supply to the electrical equipment, installation or conductor was not disconnected, locked out of service and tagged in accordance with section 190 of Ontario Reg. 213/91.

One of the workers was installing a door interlock in a high-voltage section of the building when he accidentally came into contact with a transformer, and was electrocuted. He was found by his co-worker and transported to hospital, where he was pronounced deceased.

Enerquest was found to have failed to establish and implement written measures and procedures for complying with the regulation to ensure workers were adequately protected from electrical shock and burns, and failed to make a copy of the written measures and procedures available to every worker on the project.

### E2inc to train first responders on EVs

EJTC Enterprises (E2inc) and Sun Country Academy (suncountrytraining.com) have announced an agreement that will see E2inc delivering Sun Country's electric vehicle education curriculum at locations across Canada. Training is to be available for fire, police and paramedical services as well as towing company operators by late Summer 2016.

"With a growing number of electric vehicles on the road, it's important for firefighters, ambulance crews and police to become acquainted with basic steps such as fire suppression and vehicle shutdown," said Kent Rathwell, CEO of Sun Country Integrated (www.suncountryintegrated.com).

Under the umbrella of Sun Country Integrated, Sun Country Academy is affiliated

with Sun Country Highway, a distributor of electric vehicle infrastructure such as charging equipment and charging stations.

E2inc, based in Greater Vancouver, notes it is Canada's approved trainer and license holder for the Electric Vehicle Infrastructure Training Program, which provides certification in electric vehicle infrastructure installation and maintenance to Red Seal qualified electricians. E2inc's training portfolio also includes the Mentorship Matters workplace mentoring program and the Advanced Lighting Controls Training Program, scheduled to launch in collaboration with BC Hydro in Fall 2016.

### New Brunswick RCMP make four arrests in mill copper theft

RCMP say four people have been arrested in connection with a theft of copper wires from a mill in southeast New Brunswick.

Around 6:45 am on June 6, 2016, members of the Southeast District RCMP were called to a mill in West Branch, after employees discovered four people allegedly trying to steal copper wire.

Three Moncton men, ranging in age from 28 to 52 years-old, and a 41 year-old woman from the Elsipogtog area, were arrested. They were all released on a promise to appear in Moncton Provincial Court at a later date. Police say they are expected to face charges.

### Colville Lake, N.W.T. celebrates hybrid power plant

Individual generators were the source of electricity for Colville Lake, N.W.T. before the community built its first power plant in 1990. Now, the Northwest Territories Power Corporation (NTPC) and the



The batteries are in the white trailer, the controller is in the blue, and the generator trailer is behind. PHOTO COURTESY NTPC.

Government of the Northwest Territories (GNWT, www.gov.nt.ca) have opened the Colville Lake power plant with a new system: a solar/battery/diesel hybrid.

This system includes 136.5kW of solar PV, 200kWh of battery storage, three diesel generators (2 x 100kW, 1 x 150kW) and a control system that integrates the generation types.

Outages have decreased from more than 30 a year to just two since the system came online in December 2015, NTPC (ntpc.com) says, and about 80,000 litres of diesel fuel will be displaced annually, based on the first quarter of 2016. About 55,000 of those are due to the higher efficiency of the new diesel engines combined with the batteries, the utility adds, and being able to run diesel engines at their optimum rate has improved efficiency by more than 25%.

An additional 24,000 L of diesel is being displaced due to the installed solar farm. The overall efficiency has increased by about 40%, according to NTPC. **EB**

#### EXPOSE YOURSELF ONLINE! **EBMAG.COM**

boasts over well 28,000 page views per month. That's a whole lot of good online exposure for very reasonable rates!



**VISIT [EBMAG.COM/ADVERTISE](http://EBMAG.COM/ADVERTISE)**

Canadian manufacturer specializing in  
AC90 (Cu & Al) ACWU90, TECK90, NMD90

# northern cables

I N C O R P O R A T E D

P.O. Box 1564, 50 California Avenue, Brockville, ON K6V 6E6  
Tel: 613.345.1594 Fax: 613.345.3147 Toll Free: 1.888.524.5050

The Armoured Cable Specialists  
**getwired.**  
[www.northerncables.com](http://www.northerncables.com)



# Indemnity clauses... where do I sign?

**W**e are always told the United States is the land of the free; they project an image that is often anti-government intervention and, by extension, anti-legislation, *and yet* they have legislation that prohibits a specific contractual term that you, as a contractor, sign up for each and every week.

I'm talking about *indemnity clauses*.

In their simplest forms, they are part of an agreement to which you, as a contractor, are bound to indemnify the owner (and often the project consultants and even the financing entity) from a certain set of risks. Indemnifying essentially means you will protect the entities whom you have agreed to protect. Some insurance contracts have your insurer acting as your indemnity for certain specified risks. Ultimately, they are in nearly every construction contract you sign.

A problem often arises with the unequal allocation of these risks in the form of indemnity clauses whereby you, as a contractor, agree to indemnify the general contractor, owner and potentially the consultants from any and all risks associated with your performance of the contract. That can mean that you have agreed to fully indemnify (fully protect) those entities identified from any risk associated with the performance of your contract.

So what does this have to do with the U.S.? Almost all of the 50 American states have some form of "Anti-Indemnity" legislation applicable to construction contracts limiting the use of indemnity clauses.

In Michigan, for example, the Anti-Indemnity Statute prohibits construction contracts from requiring one party (the indemnitor) to indemnify another party (the indemnitee) for damages arising out of bodily injury to persons or damage to property where those damages are caused by—or resulting from—the sole negligence of the indemnitee.

These types of clauses are declared void (unenforceable) as they go against public policy.

Minnesota's Anti-Indemnity Statute has been around since 1984 and, with it, nearly all forms of indemnity are prohibited in construction contracts. But there are some very narrow exceptions; for example, the statute permits

certain indemnity provisions so long as the "promisor agrees to provide specific insurance coverage for the benefit of others". In other words, your indemnity will only be extended to the insurance you have for covering that specific risk.

In the apparent bastion of freedom called Texas (which one assumes would include the freedom to contract), the Anti-Indemnity Statute prohibits indemnification of claims arising out of the indemnitor's (contractor's) work if the damage is caused "by the sole, joint, concurrent, contributing or comparative negligence or fault of the indemnitee (owner, consultant, etc.)".

In other words, a construction contract can no longer contain an indemnification clause that requires a contractor to indemnify, defend or hold harmless another party for a claim due to that party's own negligence (whether solely or in part, i.e. contributory negligence).

The statute also impacts additional insureds by providing that an indemnitor cannot be required to purchase additional insured coverage when it would be prohibited when examined in light of the indemnification agreement. The provisions of the statute cannot be waived, and any provision in a contract is void to the extent that it requires one party to indemnify another for claims arising out of the fault of the indemnitee.

One must ask: why do Americans have such extensive Anti-Indemnity Legislation? Obviously, they believe there is some need to protect contractors from being exposed to heavy-handed indemnity clauses.

And if American legislatures have laws limiting indemnity clauses, then why do contractors here in Canada sign up for them so readily? Perhaps we need to *start reading* the indemnity clauses in our construction contracts to better understand what it is we are truly signing up for. **EB**

Dan Leduc is a partner in the law firm Norton Rose Fulbright Canada LLP and practices almost exclusively in construction law. He is frequently called upon to advise and represent owners, engineers, subcontractors, suppliers and builders in such front-end services as contract review, tender issues and general construction matters, as well as in litigation and arbitration. Dan can be reached at 613-867-7171 or dan.leduc@nortonrosefulbright.com.

**Almost all of the 50 American states have some form of "Anti-Indemnity" legislation applicable to construction contracts limiting the use of indemnity clauses.**

## CALENDAR

**EB EFC 16th Federation Cup Golf**  
Electro-Federation Canada  
**Aug. 24**, Milton, Ont.  
Visit [www.electrofed.com](http://www.electrofed.com)

**EAM Golf Classic Tournament**  
Electrical Association of Manitoba  
**Aug. 25**, Winnipeg, Man.  
Visit [www.eamanitoba.ca](http://www.eamanitoba.ca)

**Green Energy Doors Open**  
Ontario Sustainable Energy Association  
**Sept. 9-11**, Across Ontario & Alberta  
Visit [greenenergydoorsopen.ca](http://greenenergydoorsopen.ca)

**BICSI Fall Conference & Exhibition**  
**Sept. 11-15**, San Antonio, Texas  
Visit [www.bicsi.org/fall/2016](http://www.bicsi.org/fall/2016)

**EB CUEE Show**  
Electricity Distributors Association  
**Sept. 13-14**, Mississauga, Ont.  
Visit [tinyurl.com/hh4gwx7](http://tinyurl.com/hh4gwx7)

**IEEE Energy Conversion Congress & Exposition**  
**Sept. 18-22**, Milwaukee, Wis.  
Visit [www.ieee.org](http://www.ieee.org)

**"Charge" Energy Branding Conference**  
**Sept. 19-20**, Reykjavik, Iceland  
Visit [branding.energy](http://branding.energy)

**IEEE Petroleum & Chemical Industry Technical Conference**  
**Sept. 19-21**, Philadelphia, Pa.  
Visit [www.ieee-pcic.org](http://www.ieee-pcic.org)

**EB ECAO Industry Conference**  
Electrical Contractors Association of Ontario  
**Sept. 21-25**, Minett, Ont.  
Visit [ecao.org/events\\_ecao2016.asp](http://ecao.org/events_ecao2016.asp)

**Canadian Airports National Electrical Workshop**  
Canadian Airports Electrical Association  
**Sept. 25-30**, Moncton, N.B.  
Visit [www.canew.ca](http://www.canew.ca)

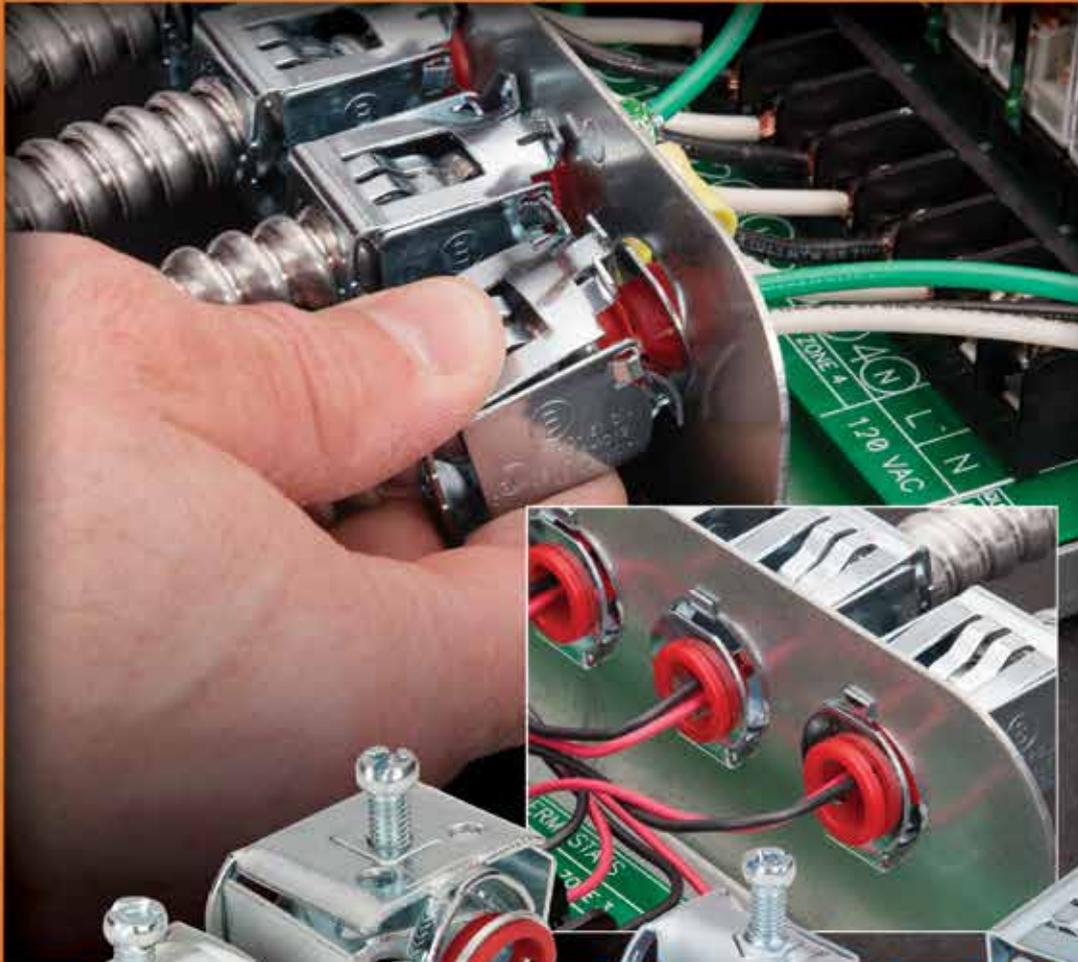
**Solar West**  
Canadian Solar Industries Association  
**Oct. 5-7**, Edmonton, Alta.  
Visit [solarwestconference.ca](http://solarwestconference.ca)

**EB** Indicates EB will be there.

Visit [EBMAG.COM](http://EBMAG.COM) for an extensive list of upcoming industry events.



# 50% LESS TIME. 100% LESS TOOLS.



## AMC-50QI E-Z LOCK™ QUICK INSTALL CONNECTOR.

Make fast, secure connections with the industry's only double-snap type AMC connector.

Simply snap the connector onto the cable, squeeze the lever, and set into the knockout – no tools required.

See how you'll save half the time over traditional AMC style connectors, visit: [bptfittings.com/QI](http://bptfittings.com/QI)

LOOK FOR  
BRIDGEPORT ORANGE



AMC  
E-Z LOCK™  
FAMILY

**NEW**  
**AMC-50QI**  
Patent Pending



SEE THE DIFFERENCE  
ORANGE MAKES™  
[BPTFITTINGS.COM/QI](http://BPTFITTINGS.COM/QI)

### BRIDGEPORT'S WORLD-CLASS QUALITY AVAILABLE THROUGH NESCO

With two decades of on-time delivery, competitive pricing, exceptional service and same-day shipping, NESCO delivers the Bridgeport innovation that helps your customer do their job faster and for less.

Call (866) 446 3726 or visit [nescocanada.com](http://nescocanada.com) and start saving today.



# WHAT DO YOU GET FROM ALMOST 1000 ELECTRICAL PLANS?

Inside McGill University Health Centre's newest head-turner / **RENÉE FRANCOEUR**

**F**rom a distance, it looks like someone used giant rainbow Lego blocks to erect the building on Decarie Boulevard in Montreal: Glen Site, the newest addition to the sweeping McGill University Health Centre (MUHC). From a pneumatic tube system behind the walls to robotic dispensing machines, this high-tech facility goes well beyond its simple Lego-like appearance.

The 346,150-m<sup>2</sup> complex is Quebec's first hospital to be certified LEED Gold. General contractor SNC-Lavalin says it initially sought LEED Silver but, thanks to design and construction choices made throughout the building process, Gold became the reality.

"This proves we've exceeded the requirements regarding the building's environmental footprint," says Alexandre Cloutier, lead electrical engineer with SNC-Lavalin.

Some examples of this, according to Cloutier, include the 79 electric vehicle charging stations and energy-efficiency initiatives (resulting in savings of about \$2-million per year), as well as reduced light pollution thanks to adaptive lighting fixtures and an emphasis on natural light.

"This project ranks among the greenest hospitals in North America," Cloutier adds, but it was no walk in the park: a total of 965 electrical plans were issued for the project, which took over four years to construct.

"In this fast-track design-build project, construction teams could not wait for 100% complete design plans to start the construction," Cloutier explains, speaking to the biggest challenge of such a big undertaking. "Assumptions, preliminary co-ordination and reserved spaces and areas had to be discussed between design team, construction teams and subcontractors."



Operating room in Glen Site.

**110**

NFL football fields would fit in the complex

SNC-Lavalin, Johnson Controls and five other companies did the electrical work. Follow along with Cloutier, below, as he takes us through a tour of the 58-elevator, 11,800-door facility.

## Electrification and lighting

The 16MW peak demand Glen Site boasts three 11MW, 25kV incoming lines from Hydro-Quebec, according to Cloutier, from two different distribution substations. There is also enough fuel stored onsite to run the 12.5MW-worth of synchronized generators for 24 hours.

Glen Site is home to over 34,300 lights, Cloutier says, all of which work on an automated system to optimize energy efficiency. In closed offices and conference rooms, occupancy sensing light switches have been programmed to automatically turn

off any appliance in the room when it has been unoccupied for more than 15 minutes.

In patient rooms, meantime, amber-coloured lights installed at the base of the walls allow hospital personnel to check on patients during the night without having to turn on full lighting, which may wake the patients.

When it came to exterior lighting, the biggest concern for the hospital site was light pollution, Cloutier says.

While he was unable to share with us any specific products used onsite, he says the full cut-off LED exterior fixtures direct light solely toward the ground. There is no light spill above the horizon, Cloutier explains. And there are no fixtures lighting the site's façade.

"The light fixtures include special prisms that direct light only to desired areas," Cloutier says.

**965**

electrical plans issued for construction

Industry standard,  
consider yourself raised.



The **NEW** FLIR T1K HD Thermal Camera.

BUILT FOR THE EXPERT, BY THE EXPERTS.

CHECK OUT THE AMAZING HD THERMAL VIDEO AT [WWW.FLIR.CA/T1K](http://WWW.FLIR.CA/T1K)



The World's **Sixth Sense**™



McGill University Health Centre's Glen Site spans 346,150-m<sup>2</sup>. PHOTO COURTESY SNC-LAVALIN.



A fiber network connecting all MUHC sites lets health professionals view diagnostic test results or patient records instantly. PHOTO COURTESY SNC-LAVALIN.



Inside the complex's walls is a system of tubes for delivering samples, medication and emergency supplies from places like the hospital pharmacy directly to the central caregiver stations in the patient room pods. PHOTO COURTESY SNC-LAVALIN.

### MUHC breathability

An air quality management plan, implemented during the construction phase, was one of the things that stand out for Cloutier about the project. In areas where work was complete, HEPA vacuums (fitted with high-efficiency air filters) were used to ensure any dust created by corrective work did not spread. Also, to ensure ventilation systems remained clean, ducts were protected prior to delivery to the site and “remained protected until installed”.

MERV8 filters were also temporarily installed on ducts and air intake vents when they became operational. These filters were then changed prior to commissioning and delivery of the hospital centre, he explains.

“The ventilation system has been designed following building standards to ensure optimal air exchange rates and variable levels of fresh air intake for each of the different ventilation systems,” Cloutier says. “Air intakes and outlets have been designed according to wind directions to ensure the best quality of air.”

All ventilation systems were activated once construction at the site was complete, but before buildings were occupied. “By drawing in as much fresh air as possible, the indoor air was completely flushed out. This commissioning procedure helped ensure HVAC systems are as efficient as possible,” Cloutier says.

Air quality also benefited from wall paint containing 0 grams volatile organic compounds (VOCs), Cloutier points out, and low-VOC adhesives, sealants and carpet glue.



**30,800**  
electrical outlets

**3**

11MW, 25kV incoming lines from Hydro-Quebec

**Final word**

“From an electrical perspective, the proudest thing for me was being able to successfully interact and coordinate the work of six different electrical companies in the same hospital complex project,” says Cloutier, for whom the project is blazing green check mark. “And it’s 35% more energy efficient than the benchmark building.” **EB**

**12.5MW**  
of synchronized generators

**WORTH NOTING!**

On its website, MUHC draws attention to some other unique features of Glen Site:

**100% Wi-Fi connectivity**

A fiber network connecting all MUHC sites lets health professionals view diagnostic test results or patient records from any of the hospitals instantly.

**The scrub machine**

With the swipe of an ID card, Glen staff receive scrubs directly from automated machines. They can return dirty scrubs to these machines, too.

**Pneumatic tube system**

Behind the walls is an intricate network of tubes for delivering

samples, medication and emergency supplies from places like the hospital pharmacy directly to the central caregiver stations in the patient room pods. The capsules for these pneumatic tubes (which are about the size of a 2-litre plastic bottle) are tracked using an RFID system, and travel about 20 km/h. The tube system accommodates over 5000 transactions daily.

**Robot medication dispenser**

The pharmacy department’s new robotic machine receives an order, picks the medication and labels it, double checks it for accuracy and affixes it with a bar code. Later, when the medication is being administered, nurses scan the bar code to automatically update the patient’s file.

**FABRICATED DUCT SPACER**

- Off-site duct bank assembly is possible, allowing for labor savings
- A safer installation - less time is needed in the trench
- Do more work outside of the ditch instead of in the ditch
- Cannot fall or tip over
- Easy flow of concrete through the spacers during concrete pour
- Fits all types and sizes of conduit
- Any configuration and conduit separation can be maintained



**UNDERGROUND DEVICES**  
INCORPORATED

420 ACADEMY DRIVE • NORTHBROOK, ILLINOIS 60062  
Phone: (847) 205-9000 • Fax: (847) 205-9004  
Website: <http://www.udevices.com>

# LIGHTING MANUFACTURER PRACTISES WHAT IT PREACHES

## Standard's Saint-Laurent warehouse relamping



Note the somewhat dim aisles prior to retrofit. Under the new lighting, warehouse workers can clearly see the bottom row of product.

**S**aint-Laurent, Quebec-based Standard Products provides lighting solutions to the commercial, industrial and residential markets through the professional electrical and lighting channel.

Its stated mission is to provide complete lighting solutions that allow clients to improve the quality of their lighting systems and enhance overall ambiance while reducing energy, maintenance and operating costs.

And so, to practice what it preaches, the company embarked on a plan to incorporate “sustainable lighting and energy management practices” into its Saint-Laurent warehouse in August 2015. Besides striving for improved workplace safety, and energy and cost

**60**

Number of occupancy sensors used to control 180 luminaires within the main section of the warehouse

**193,940 kWh**

Annual energy consumption of original lighting scheme

savings, the relamping project served as an in-field demo for customers of the company's lighting options.

### Previous high-bay HID lamp technology

A high-bay application is typically a space offering at least 5 to 7 metres of clear height. High-bay lighting is widely used in warehousing, big box retail and manufacturing spaces.

The Standard warehouse was originally lit with:

- 148 HID high-bays (MH400 using MH lamps, each consuming 458 watts.
- 30 HID high-bays (MH875) using MH lamps, each consuming 900 watts.

- Several traditional fluorescent T8s, each consuming 32 watts.

Together, these lamps represented an annual energy consumption of 193,940 kWh.

### Upgrading to LED tech

Over a period of two weeks, Sibenco Inc. worked to relamp the lighting system in the entire warehouse. All the work was performed at night over the course of the retrofit so as not to interfere with warehouse operations.

The traditional technologies listed above were replaced with 208 LED high-bay luminaires (LPHB/6MS), each consuming 175 watts. As for the fluorescent T8s, they were replaced with LED T8s that consumed 22 watts.

NON-METALLIC

# QUICKLATCH®

BETTER...USE IT LIKE A PIPE HANGER

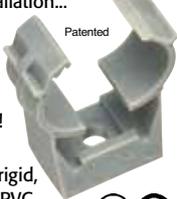
2-1/2" to 4" SIZES

Mounts to wall, strut, stud

Fast, easy installation...

Press pipe firmly into QuickLatch to lock it in place. That's it!

QuickLatch... for 1/2" to 4" rigid, EMT, IMC and PVC



**SAVES ABOUT 25 SECONDS PER INSTALLATION!...**

about \$1.00/minute at \$60/hr labor!



Listed for environmental air handling spaces

Size Cat. No. for RIGID, EMT, PVC, IMC  
2-1/2" NM2060  
3" NM2070  
3-1/2" NM2080  
4" NM2090



© 2005 Arlington Industries, Inc.

NON-METALLIC

# MOUNTING BRACKETS

FOR CLASS 2 LOW VOLTAGE WIRING

Made in USA



LV1 for Existing Walls



Nail-on LVN1 New Construction



LVS1

LVMB2

Arlington's non-metallic mounting brackets are the best way to install Class 2 wiring! They seat wall plates flush with the mounting surface – install faster and cost less than metal!

In existing construction, centered mounting wing screws pull the bracket securely against the wall. The LV series (LV1 and multiple gang) adjust to fit 1/4" to 1" wall thicknesses.

For new construction, the nail or screw-on LVN series brackets attach to a wood stud. They cost less than extension rings and install faster than mud rings. For screw-on, steel stud installations, try the LVS or LVMB series.

We offer other low voltage brackets for specialty applications.



LVMB1

LVS2

LV2



© 2008-2011 Arlington Industries, Inc. Patented.

View Video for LV1



CSA/UL LISTED

Made in USA

NEW! Larger Perforated Flange

# BOX EXTENDERS

EXTEND SET BACK ELECTRICAL BOXES UP TO 1-1/2 INCHES



BE1X Single gang w larger flange

BE1

miscut opening

Same Cost as BE1

BE1X

larger flange covers it

View Video



Our CSA/UL Listed Box Extenders extend set back metal or non-metallic electrical boxes up to 1-1/2".

The newest, BE1X, has a slightly larger flange that covers miscut wall material and accommodates midi, maxi – or standard cover plates.

It costs the same as our 'regular' single gang BE1 so if you usually use a midi plate this is the box extender for you!



Heavy-duty, non-conductive plastic – levels and supports wiring device. No need to tape the sides of receptacle to prevent arcing in a metal box.

Complies w/ NEC 2014 (314.20) for set back boxes

2-hour fire rating

Single and multiple gangs; round for round or octagonal boxes



BE1X Trimmable. Fits standard wall plates.

© 2009 Rev2014 Arlington Industries, Inc. Patented

FLUSH-TO-THE-WALL MOUNTING OF FLAT SCREEN TVs

Made in USA

# PLASTIC TV BOX™

RECESSED POWER/LOW VOLTAGE COMBO BOXES



TVBU505GC POWER and LOW VOLTAGE BOX with CED130 cable entry device

for NEW WORK ...or RETROFIT

CED130 CABLE ENTRY DEVICE

DVFR2GC

POWER and/or LOW VOLTAGE COMBINATION BOX

DVFR2GC with voltage separator installed

Arlington's PLASTIC recessed combination power and low voltage boxes – TV BOX™ and Indoor IN BOX™ – offer the secure, easy way to mount flat screen TVs flush against a wall.

- Plugs and connectors stay inside these Listed boxes without extending past the wall
- 2-, 3- and 4-gang styles for retrofit or new work with power and/or low voltage in one or more of the other openings – there's a box to fit nearly any application!
- Non-metallic box with paintable white trim plate
- RETROFIT Mounting wing screws pull box against wall
- NEW WORK Box screw-mounts to stud
- Includes ground clip; optional covers available

TVBU505GC TV BOX™ For Power and Low Voltage

2-GANG

DVFR2GC IN BOX™ w/ separator for Power and/or Low Voltage



View TV BOX Video

3-GANG TVBU507GC

4-GANG TVB613GC

Patented. Other patents pending.



800/233-4717 • www.aifittings.com

Arlington



Prior to the retrofit, the traditional lighting scheme was averaging 108 lux, while the new lighting registers 185 lux, on average, under the new LED lighting scheme. PHOTOS COURTESY STANDARD PRODUCTS.

The new LED fixtures represent an annual energy consumption of 104,104 kWh.

Also, to avoid unnecessary lighting in the aisles, 60 occupancy sensors were installed to cover 180 luminaires within the main section of the warehouse.

Standard noticed a significant and immediate lighting improvement in the aisles: whereas the light meter previously averaged 108 lux under the old lighting, the lighting now averages 185 lux.

**Recycling, rebates and savings**

Provincial recycling programs in Quebec enable the recycling of all lamps and fixtures. The cost of these programs covered when the materials are purchased; thereafter, pick-up and recycling are free of charge. All materials that were retrofitted in this project were recycled, thereby preventing them from going to landfill.

As the Hydro Quebec rebate program is mostly based on kWh saved, Standard Products received financial support in the amount of \$9896. Companies need to save at least 50,000 kWh to benefit from this program. These changes represent a savings of 89,836 kWh, or \$9000 per year in energy costs.

And warehouse employees seem happy about the new lighting, too. "It changes everything. It's brighter!" said one. "Now, we can clearly see the bottom row of the products, and we feel safer." **EB**

—With files from Gaëlle Boulais-Dupas



This Comment follows our news item "Marynowycz convicted and fined yet again for illegal electrical work" posted online at tinyurl.com/mxwzxx7.

**Two licences/fees too many**

THREE LICENCES AND three fees to do residential work is two licences and two fees too many. The Electrical Safety Authority (ESA) allows homeowners to do identical electrical work in their homes without a single licence! To do the same work, an experienced self-employed electrician must have three licences while a clueless homeowner needs none! — Sam

This Comment follows our news item "Senior's fatality nets Niagara's Pro-Teck Electric the largest fine" posted online at tinyurl.com/zgk37x3.

SO WHERE DID the money go? Did the government get the money from the fine as well the surcharge? What did the family get? I worry these kind of situations will give rise to a trend where the courts will levy higher fines for lesser infractions. — Brian P.

This Comment follows our news item "M-B Oakville Autohaus fined \$65,000 after electrical worker injured" posted online at tinyurl.com/hvl8859.

WHY WAS A labourer doing electrical work? Probably not trained in lockout procedure. An apprentice working without journeyman. It is interesting that the charges against the dealership came under "Duties of an Employer" when they are not the employer. One would have thought that the dealership obligations would have come under "Duties of Owners" or "Duties of Constructors". Most managers running retail businesses have not been trained to recognize the industrial hazards that tradespeople may encounter. — D.N.

This Comment follows the Editor Blog "Determination and survival drive our industry" posted online at tinyurl.com/zeagfqx.

THIS IS A very good article, Anthony. I would suggest that most of the people who become good leaders share a passion for what they do, are driven to learn and get better, and always act with integrity. Those who become great leaders share all of the above, and have the added strength of being great mentors who build strong teams. — Wayne D.

**▶ EBMAG'S WEBINAR-OF-THE-MONTH CLUB!**

## CASH FLOW PROBLEMS? 5 WAYS TO MAXIMIZE YOUR PROFITS

**DID YOU KNOW... a measly 5% decrease in profit can put you out of business?  
Is your business profitable? Do you even know?**

**Money is slipping through your fingers!**  
Plug the leak with Andrew Houston's Top 5 Strategies for increasing your bottom line. He'll discuss how to enhance your team's efficiency by 50% and get back 15 hours of your own life... all while increasing sales.

He will delve into real-life examples from fellow contractors like Gaetan Daze, who doubled his profits with sales going from \$3.6 million to \$5.3 million.

**Join us August 23, 2016, at 2 pm EST.**  
The FEE for this 1-hour webinar is just \$30. To Register, visit [tinyurl.com/glp8nsa](http://tinyurl.com/glp8nsa)

# Powering Canada Coast to Coast



## Connect with confidence



Connecting large portable equipment to an electrical system, such as backup power or for temporary loads can create potential hazards and pose serious risks to life and property if not done properly.

Eaton's patented quick connect design provides increased operator and public safety with its unique mechanically integrated disconnect and receptacle solution.

A key safety feature of this exclusive design is the door interlock system. When the disconnect is closed, the receptacle door cannot be opened and when the receptacle compartment is open, the disconnect cannot be closed.

In addition to safety, the Eaton quick connect provides convenience to the user with ease of operation via the interlocking system. This allows cable connection to the receptacles without having to open the main door of the disconnect.

#### What do you need to connect?

- Portable or permanent generator
- Load bank testing
- Portable trailer
- Temporary connection for sound or lighting system
- Media equipment

Count on Eaton for safety and innovation, Canada does.

<http://bit.ly/23ZdVtx>

Subscribe to Eaton Insights eNewsletter to stay up to date on the latest news and products. [eatoncanada.ca/subscribe](http://eatoncanada.ca/subscribe)



# EATON

Powering Business Worldwide

#### National Manufacturing and Distribution Centres:

Calgary, AB • Edmonton, AB • Airdrie, AB • Milton, ON  
Mississauga, ON • Etobicoke, ON • Perth, ON

#### Regional Manufacturing Facilities:

Delta, BC • Calgary, AB • Edmonton, AB • Winnipeg, MB  
Mississauga, ON • Lachine, QC • Dartmouth, NS

Call toll-free: 1-800-268-3578

# BEST MANAGED SEAL

## “ENSURES WE’RE DOING WHAT WE SAY WE’RE DOING”

### STAFF

“**B**est Managed companies embrace innovation, seize opportunities and inspire talent. They really set the bar high,” said Peter Brown of Deloitte, who co-leads Canada’s Best Managed Companies program, a business awards program for Canadian-owned/-managed companies with revenues over \$10 million.

A number of electrical industry players were among those recognized across several categories in 2015, and they include:

- Best Managed: Powerline Plus
- Requalified: Gerrie Electric Wholesale, Stelpro Design
- Gold Standard: Houle Electric, Mircom Group, Techmation Electric & Controls Ltd.
- Gold Requalified: ECS Electrical Cable Supply Ltd.
- Platinum Club: Alliance Energy, B.A. Robinson Co., Deca Cables, E.B. Horsman & Son, Ideal Supply, Standard Products Inc., Tarpon Energy Services, Tenaquip Ltd.

We reached out to all of the electrical industry players who made the grade, hoping to learn a little more about what it is they are doing right, and why the distinction of being a Best Managed company matters to them and, truly, should matter to us all.

#### Delivering on the words

“It’s about paying attention; that’s what makes good business practices,” says Paul McLellan, CEO of Alliance Energy, which has been a part of the program’s



▲ Houle Electric team members celebrate after the Best Managed celebration in B.C. Left to right: Amber Roberts, HR manager; Allan Lanzador, marketing manager; Robert Lashin, president; and Rois Rizzo, VP of finance and CFO. PHOTO COURTESY HOULE.



▲ The Alliance Energy folks with their Best Managed Award. Left to right: Bryan Leverick, Drew Tiefenbach, Rob Istace, Jan McLellan Folk, Paul McLellan. PHOTO COURTESY ALLIANCE ENERGY.

Platinum Club for the past seven years. “All our folks contribute to our success.”

“In our industry, things are rapidly changing. There’s new delivery systems, new scheduling systems, and you have to be flexible and adapt to that to be a well-managed company,” says McLellan.

“It’s a rigorous application

process,” he adds with a laugh. “The thing is, sometimes you don’t realize what you’re doing until you sit down and write it out and analyze it. This helps from a company and management perspective to ensure we’re doing what we say we’re doing.”

Applying also encompasses some great coaching from organizers of the program, he says.



### WHAT DO THE AWARD CATEGORIES MEAN?

The Best Managed awards are granted on five levels:

- 1. Best Managed:** One of the new winners selected each year.
- 2. Requalified member:** Repeat winners retain the Best Managed designation for two additional years, subject to annual operational and financial review.
- 3. Gold Standard winner:** After three consecutive years of maintaining their Best Managed status, these winners have demonstrated their commitment to the program and successfully reapplied for the designation.
- 4. Gold Requalified member:** Gold Standard winners may requalify for two additional years, subject to annual operational and financial review.
- 5. Platinum Club member:** Winners that maintain Best Managed status for a minimum of six consecutive years.

**The 2016 program begins this June. For more information and to apply, visit [bestmanagedcompanies.ca](http://bestmanagedcompanies.ca).**

# PUSH BUTTONS & CONTACTORS

STOCKED IN CANADA,  
SHIPPED TODAY!!



## 22mm Push Buttons

- Metal design with screw down collars
- Non-Illuminated, Illuminated, Pilot lights & Specialty Buttons
- Control stations in Metallic and Plastic
- CSA, CUL/UL, Ce Approved
- IP65/66 Rated
- Original design



**'TIME TESTED - INDUSTRY APPROVED'**

## IEC T&F Line Contactors

- T-Line in 9 - 95 amp, F-Line in 115 - 780 amp
- 3 and 4 pole styles
- Wide range of accessories
- CSA/UL Approved
- Overloads sold separately
- Large Canadian Inventory



**NEW  
LOCATION**

### HEAD OFFICE

3131 Pepper Mill Court  
Mississauga, ON, L5L 4X6  
T: 905.820.6150  
F: 905.820.6142  
E: [sales@techspan.ca](mailto:sales@techspan.ca)

### WESTERN CANADA

8176 Winston Street  
Burnaby, BC, V5A 2H5  
T: 604.420.0425  
F: 604.420.3149  
E: [westsales@techspan.ca](mailto:westsales@techspan.ca)

[www.TECHSPAN.CA](http://www.TECHSPAN.CA)

**STAND OUT** with...

**TECHSPAN**



Greg Young, far left, of Tarpon Energy Services and members of the company at the modular fabrication yard in Calgary, Alta. PHOTO COURTESY TARPON ENERGY SERVICES.

## Best-managed electrical manufacturers and distributors



Our Spring 2016 edition of Distribution & Supply contains a full feature article on Canada's best-managed electrical manufacturers and distributors,

which you can read in its entirety (as a Digital Edition or PDF you can download) at [www.ebmag.com/distribution-supply](http://www.ebmag.com/distribution-supply).

You'll learn how B.A. Robinson traces its roots to an 1850 candlemaker; or that Ideal Supply began life as the Ideal Manufacturing Co., a maker of bread-moulding machines; or that lighting player Standard Products Inc. started as a toy import company that moved into selling batteries, cutlery, safety gloves, playing cards and insulating tape.

You can also read vignettes on each individual company at EBMag. Check them out here:

- B.A. Robinson & Co. Ltd., [tinyurl.com/jntfg3q](http://tinyurl.com/jntfg3q)
- Deca Cables, [tinyurl.com/hw84le3](http://tinyurl.com/hw84le3)
- E.B. Horsman & Son, [tinyurl.com/jrh94ad](http://tinyurl.com/jrh94ad)
- Gerrie Electric Wholesale Ltd., [tinyurl.com/hram599](http://tinyurl.com/hram599)
- Ideal Supply Co. Inc., <http://tinyurl.com/z6kxheo>
- Standard Products Inc., [tinyurl.com/h2en7fl](http://tinyurl.com/h2en7fl)
- Stelpro Design Inc., [tinyurl.com/zshb37f](http://tinyurl.com/zshb37f)

When Alliance Energy first started applying, it was one of the few electrical companies doing so, McLellan notes. "So we're pleased to continue to represent the industry, and proud we kind of led that charge. The Platinum club is quite prestigious."

The designation is great not only for management, but staff, too, McLellan adds, as it's another reason to say Thank You to employees. "You can't say 'Thank You' enough."

### Setting performance standards

As part of the application, Allan Lanzador with Houle Electric says the company provides an account of its overall business objectives and plan, "outlining our initiatives within the plan and giving examples of how they impact our business and bottom line going forward".

Lanzador adds: "It is our belief that this information, supported by our financial data (also provided in the submission) has helped significantly in proving our standing as one of Canada's Best Managed Companies."

For Houle, the submission process is "an excellent way for private companies like us to set performance standards beyond just financial data".

The benchmarks established with each previous year's application gives Houle's management group a visible bar to meet—or, preferably, even outperform. "The submission can also bring out important questions and topics that we ourselves may not always take the time to ask or address."

### All about the people

As for what Powerline Plus is doing right when it comes to managing, CEO Ben Martin says the trick is nurturing a culture that

supports personal and professional growth.

Through committed teamwork, unification of goals and leveraging company strengths, Powerline Plus is able to engage in sustainable practices and anticipate the needs of customers, Martin explains.

Greg Young, president at Tarpon Energy Services, agrees about the golden egg being people.

"We are a people-based company... We invest and empower our employees, give them a sense of ownership," Young says. "This means sending them to high-voltage courses and leadership and safety training, or things like Dale Carnegie events."

Young also notes the company has an internal training system, dubbed Tarpon University, where employees learn more about strategy, estimating, finance and conflict resolution in three days.

(Tarpon is also the winner of a 2015 inaugural Electrical Safety Champion Award. Visit [EBMag.com/esca](http://EBMag.com/esca))

Of winning the Best Managed title for the past 10 years, Young says it "signifies our credibility to our community, our employees and customers".

"It improves our marketing, too, and helps us hire people in busy times... If you have the choice between two companies and one has a Best Managed award, I think it makes that choice easier, and I think people come to work here for that reason."

Tarpon—a company of about 1500—shouts its award loud and proud, putting it on business cards and work trucks.

"I believe it's made us a better company, too. We've got to meet some really great people through it," Young concludes.

"We appreciate that quality of life is the ultimate workplace value. We build deep trust through mutual communication and respect. We recognize that collaboration empowers individuals and teams. We attract and keep talent by motivating excellence. We know that people are at the centre of all success," adds Martin. **EB**

## VALUABLE, EVEN WHEN YOU DON'T MAKE THE CUT

Established in 1993, Canada's Best Managed Companies says it measures more than financial performance. Every year, hundreds of entrepreneurial companies compete for the designation in a "rigorous and independent process that evaluates the calibre of their management abilities and practices". The program is looking for Canadian-owned businesses that have outperformed their competitors, created thousands of jobs, achieved sustainable growth, and excelled both at home and abroad.

Phase 1 includes an application form, but that's just the beginning. "You don't just apply, you take steps toward a goal that you will achieve," reads the program. "And we're there with you—coaches from Deloitte and CIBC work with all applicants to provide professional advice and counsel on your presentation. Whether you win or not, this process is valuable."



## LED Ceiling Luminaires

Equipped with high quality integrated LEDs, STANDARD's LED ceiling luminaires are an energy efficient solution for all general lighting needs.

- ▶ Round and Square profiles - 6", 8", 11" and 14"
- ▶ Average life: 50,000 hours
- ▶ Suitable for damp locations
- ▶ Easy installation



# Lighting Solutions that Save.



**STANDARD**<sup>®</sup>  
www.standardpro.com

## PERSONALITIES

Congratulations to the following individuals, recognized at **Electro-Federation Canada's** ([www.electrofed.com](http://www.electrofed.com)) annual conference in Halifax:



• **Irwin Beron**, president of **RAB Design Lighting Inc.** ([rabdesign.ca](http://rabdesign.ca)), won the Person of the Year Award from CEMRA (Canadian Electrical Manufacturers Representatives Association).

• **Maureen Bzowy**, **E.B. Horsman & Son's** ([ebhorsman.com](http://ebhorsman.com)) retired VP of marketing, was recognized with the EFC Lifetime Honorary Distributor Award (PHOTO BY A. CAPKUN).

• **Rick Hampton** of **Eaton** received the EFC Lifetime Honorary Manufacturer recognition ([www.eatonelectrical.ca](http://www.eatonelectrical.ca)).

• **Tim Horsman**, president & CEO of **E.B. Horsman & Son**, took home the Excellence in Training Award from NAED/EFC.

Visit [EBMAG.COM](http://EBMAG.COM) for the latest news, stories, products, videos, photo galleries and industry events.



### German Made Disconnect Switches from 16A to 250A

The **SONTHEIMER** line of disconnect switches, is available in door-mount, panel-mount (long shaft), DIN-Rail mount and enclosed versions.

#### Features:

- 3, 4 and 6 poles
- Interlock/padlockable handles
- Enclosed plastic and metal models
- CSA and UL



[www.itcproducts.com](http://www.itcproducts.com)



**Pierre Vincent** is now **Stelpro's** ([www.stelpro.com](http://www.stelpro.com)) national sales director for the Canadian electrical distribution channel. Vincent will work with the provincial sales directors, the company said, to provide leadership in business planning, assist in business reviews with Stelpro partners, as well as implement a business development structure.



**ABB** ([www.abb.com](http://www.abb.com)) has appointed **Doug Schuster** global leader of **Thomas & Betts** ([www.tnb.ca](http://www.tnb.ca)), the installation products business it acquired in May 2012. He joins ABB from Eaton Corp., where he led its Critical Power Solutions division globally. He will be based in Memphis, Tenn., where ABB's Electrification Products Americas division is headquartered.



**Larry Toombs** is joining up with the **Powerco Canada** ([www.powerco.ca](http://www.powerco.ca)) team as the technical sales manager for British Columbia. Toombs brings over 20 years of electrical industry sales experience, servicing industrial and commercial accounts, the company says.



**LSI Lighting Solutions** ([www.lsi-industries.com](http://www.lsi-industries.com)) welcomes **Len Costello** as director of national accounts.



**Illuminating Engineering Society (IES)** welcomes **Tom Butters** as its director of education, effective August 2016 ([ies.org](http://ies.org)). Since 2007, Butters has been the director/senior manager of Canlyte's Lighting Concept Centre/Philips Lighting University.



**GE** ([www.ge.com](http://www.ge.com)) has named **Stephanie Mains** CEO of its Industrial Solutions business, succeeding **Bob Gilligan**, who retired after 25 years with the company. Prior to joining Industrial Solutions, Mains was VP of Distributed Power Global Services for GE Power. **EB**

## PRODUCTS

### IPEX Scepter JBox



IPEX has launched the Scepter JBox in North America, a solution that "meets market needs—ranging from increased interior space and improved strength to ease of installation and durability". IPEX says the "contractor-friendly" Scepter JBox was re-engineered to include a patented "leak-free" gasket integrated into the cover, embossed gridlines and more.

**IPEX**  
[www.ipexna.com](http://www.ipexna.com)

### Intertec's "Exp" cabinets

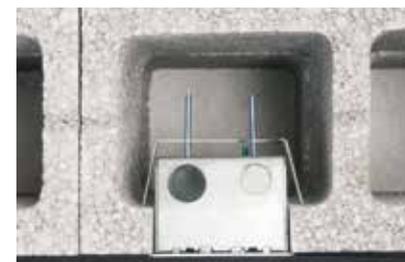


Intertec has launched a new range of explosion-proof cabinets to protect field instrumentation operating in hazardous areas. The pressurized explosion-proof (Ex p) cabinets are con-

structed from GRP (glass-reinforced polyester) composite materials. These materials are highly resistant to corrosion, Intertec claims, and have a similar strength to stainless steel, but are about 75% lighter.

**INTERTEC**  
[www.intertec.info](http://www.intertec.info)

### Arlington concrete block boxes



Arlington's 4x4 FSCB44 box and single-gang FSCB24 box promise a simple way to install a steel electrical box inside a concrete block wall. They have 1/2-in. and 3/4-in. knockouts, and screw hole patterns for devices. The spring clip holds the box against the concrete block, and bracket ends break off for use on thicker block walls.

**ARLINGTON**  
[www.aifittings.com](http://www.aifittings.com)

**Rack-A-Tiers Penguin pullers**



Rack-A-Tiers Mfg. says its Penguin pullers require "little prep compared to other methods like crimps, wire socks, wire grips," and have a weight capacity of 4000 lb. The Penguin puller senior (69700) is for wire sizes 3/0 to 350 MCM whereas the junior (69705) is for 1/0 to 4/0.

**RACK-A-TIERS**  
[www.rack-a-tiers.com](http://www.rack-a-tiers.com)

**FLIR to power the Cat S60**

Bullitt Group, a manufacturer of ruggedized smartphones, has announced it will integrate FLIR Systems' Lepton microcamera in its Android-based Cat S60, creating "the world's first thermal imaging smartphone". It will leverage the Lepton core, which FLIR says is the "world's smallest, lightest and lowest cost microbolometer-based thermal imaging camera".

**FLIR SYSTEMS**  
[www.flir.ca](http://www.flir.ca)

**Douglas Lighting Controls' DLC**



Douglas Lighting Controls' DLC Bluetooth fixture controller and sensor provides individual and group control of parking garage light fixtures (LED or other) using onboard sensors and Bluetooth. The device is powered from the fixture (120/277/347Vac) and mounts directly to the end of the unit through a standard knock-out.

**DOUGLAS LIGHTING CONTROLS**  
[douglaslightingcontrols.com](http://douglaslightingcontrols.com)

**Greenlee's RXM reel stand**



Greenlee Textron says a pair of its RXM reel stands (two are re-

quired for complete setup) can accommodate spools weighing up to 6000 lb. The device weighs 35 lb, folds down and features a rubber handle and open-head design as well as a patent-pending quick adjust mechanism to accommodate different spool diameters.

**GREENLEE TEXTRON**  
[www.greenlee.com](http://www.greenlee.com)

**VIDEO KILLED THE RADIO STAR!**

If video is king, then we are the power behind the throne. Onsite or in our studio, we provide full-service corporate **VIDEO FILMING AND PRODUCTION**. Cue the red carpet!

VISIT [EBMAG.COM/](http://EBMAG.COM/)  
**ADVERTISE**



**Electrician students ready for hire.**

The next generation of **Electricians (309A)** are being trained right now at Centennial College. Our Co-op Diploma Apprenticeship program (3821) **is the only one of its kind in the province** offering both apprenticeship training and a college diploma.

Students complete Levels 1 to 3 of their theoretical training for the 309A trade. Upon completion, students graduate with 8 months of co-op work experience as well as an Electrical Engineering Technician Diploma.

**Talented graduates and co-op students are available this summer!**

**To learn more:**  
 Call: 416-289-5000, ext. 2356  
 Email: [coda1@centennialcollege.ca](mailto:coda1@centennialcollege.ca)

[centennialcollege.ca/electrician-construction](http://centennialcollege.ca/electrician-construction)

**See where experience takes you.**

458\_MAY16

## PRODUCTS

### QuickSafe SPD from ABB



ABB's "next generation" QuickSafe surge protection device (SPD) combines the company's patented thermal disconnection technology with its new integrated safety back-up system to ensure electrical equipment is protected from damage, otherwise caused by surges in the power supply. An indicator shows which component needs replacing, enabling maintenance personnel to identify and replace the damaged component, while the second component continues to protect the equipment.

**ABB**  
[www.abb.ca](http://www.abb.ca)

### AnyWARE Ideal Networks app



Ideal Networks has a free app that allows field technicians to share test data with colleagues and mobile devices. The AnyWARE app, which is available for Apple or Android devices, can be used with the new LanTEK III cable certifier (which can serve as a Wi-Fi hotspot). The app is also supported by SignalTEK CT, SignalTEK NT and NaviTEK NT.

**IDEAL NETWORKS**  
[www.idealnetworks.net](http://www.idealnetworks.net)

### Southwire MC-PCS HCF duo cable

Southwire says its new metal-clad cable product, MC-PCS HCF duo cable, combines power and control/signal conductors

and includes redundant grounding paths to provide approximately 3.5 times better grounding performance than type AC HCF cable. The duo cable is made with 12 AWG or 10AWGCU Type THHN/THWN power and ground conductors along with an oversized bare aluminum bonding/grounding conductor and a signal conductor assembly comprised of a 30mil PVC jacket covering two 16 AWGCU Type TFN conductors.

**SOUTHWIRE**  
[www.southwire.com](http://www.southwire.com)

### SLI 'Graffiti' LED downlights



Specialty Lighting Industries (SLI) has released a new 'Graffiti' line, a family of LED downlights offering 14W in fixed or adjustable models and square or round trims that replace standard 50W MR16 halogen sources. Offered with or without flanges, the fixtures can be tilted up to 40 degrees and extended up to 360 degrees.

**SLI**  
[www.specialtylightingindustries.com](http://www.specialtylightingindustries.com)

### AAdynTech updates JAB V2, Daylight & Hurricane

AAdyn Technology is showing off three models from the JAB variable fixture series that it says now deliver at least 30% more foot candles and an upgraded version of the Punch Plus fixture that is 50% brighter than its predecessor. These include the JAB V2 Variable, JAB Daylight and JAB Hurricane.

**AADYNTECH**  
[aadyntech.com](http://aadyntech.com)

Visit [EBMAG.COM](http://EBMAG.COM) for the latest news, stories, products, videos, photo galleries and industry events.

## CODE conundrum

### TACKLE THE CODE CONUNDRUM IF YOU DARE!

Answers to this month's questions in August's Electrical Business.

*How did you do?*

**3** • Master Electrician **2** • Journeyman  
**1** • Apprentice **0** • Plumber?!?

**Compiled by Ontario's Electrical Safety Authority**  
[www.esasafe.com](http://www.esasafe.com)

#### QUESTION 1

Where the DC arc fault protection is not located at the photovoltaic module, mechanical protection is required for PV source circuit conductors installed on or above buildings to protect against rodent damage.

- a) True      b) False

#### QUESTION 2

In buildings for residential occupancy, two or more heating fixtures are permitted to be connected to a branch circuit used for space heating, provided that the branch circuit overcurrent devices are rated not more than \_\_\_\_\_.

- a) 15A      c) 30A  
b) 20A      d) 40A

#### QUESTION 3

When installed receptacles of configuration 5-20RA are exposed to the weather and facing downward (at an angle of 45 degrees or less from the horizontal), cover plates marked "Wet Location Only When Cover Closed" are required.

- a) True      b) False

### ANSWERS Electrical Business, June 2016

#### Question 1

The CE Code allows the use of non-metallic sheathed cable in a building of combustible construction.

- a) True.** Rule 12-504.

#### Question 2

Receptacles having CSA configurations 5-15R or 5-20R installed in buildings under construction:

- d) all of the above.** Rule 76-012 and 76-016.

#### Question 3

Can an insulated #6AWG wire be marked in a permanent manner with a green colour so as to be used as a bonding wire?

- b) No.** Rule 4-038.

### ADVERTISER INDEX

AD Rewards	28	Mersen Canada	27
Arlington Industries	15	Northern Cables	7
Bridgeport Fittings	9	Standard Products	21
CSA Group	26	Sylvania/LEDVANCE	2
Centennial College	23	Techspan Industries	19
Eaton Canada	17	Thomas & Betts	1,5
Electrical Safety		Underground Devices	13
Champion Awards	25		
FLIR Canada	11		
ITC Electrical			
Components	22		
IPEX Electrical	1		

#### TO ADVERTISE

**John MacPherson**

[jmacpherson@annexweb.com](mailto:jmacpherson@annexweb.com)

# ELECTRICAL BUSINESS

EBMAG.COM



**GARD**

*Unparalleled Protection*

WWW.I-GARD.COM

Experts in the application of high-resistance grounding technology & arc flash hazard mitigation

**THIS  
COULD  
BE  
YOU!**

**MEET CANADA'S  
2016**

**ELECTRICAL  
SAFETY  
CHAMPIONS**

P.10

## **INSIDE**

- + Visit [EBMag.com/ESCA](http://EBMag.com/ESCA) to Nominate
- + Deadline for Submissions is September 16, 2016
- + Join industry leader I-Gard and Sponsor

\*Not the actual cover



# CE Code Rule 2-100 “Marking of equipment”

**E**quipment marking contributes to the safety of electrical installations by:

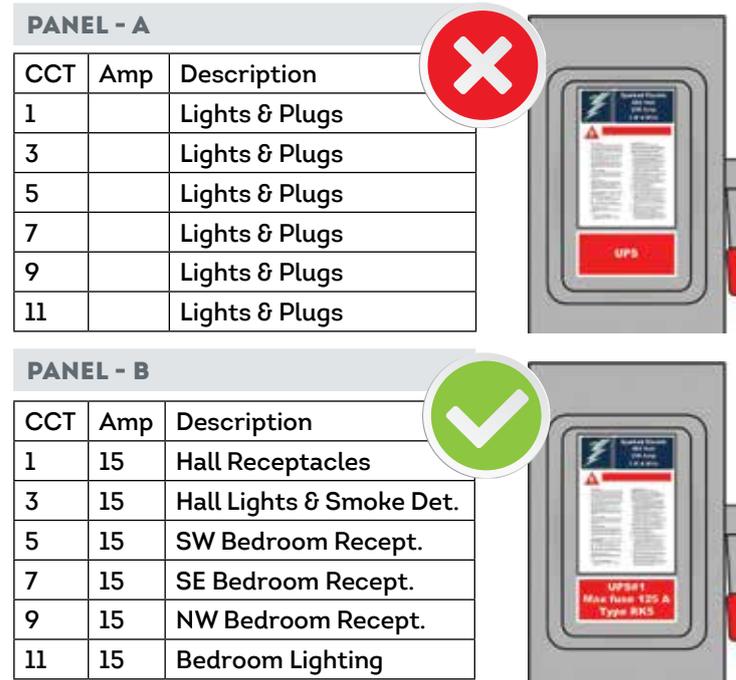
- identifying switches and breakers so that circuits can be de-energized; allowing for the timely and accurate identification of circuits so that loads are not inadvertently de-energized;
- providing workers with the means to de-energize circuits more conveniently, reducing the likelihood that a worker will engage in unsafe work practices.

And yet, over the past year, our inspectors identified more than 4000 defects related to the marking of electrical equipment.

All circuits in electrical installations should be described accurately with as few words as practical. For example, it is not acceptable to only mark circuits as “lights” and “plugs”. The room number(s) where the circuit is present should be provided, for example; or, for residential installations, a description of the area to which the circuit supplies, such as basement, living/dining room or bedroom (Figure 1). Particular circuits need to be properly identified, such as stove, washer, dryer, microwave, dishwasher, outside receptacle.

**All circuits in electrical installations should be described accurately with as few words as practical.**

Figure 1: Circuit identification



The CE Code requires distribution points, circuit breakers, fuses and switches to be marked in a conspicuous location and in a legible manner to indicate which portion of the installation they protect or control. Additionally, where specific fuse types are required (e.g. Type P, Type D,

HRC Form 1), the fuse type shall be shown with the permitted maximum fuse rating.

A key requirement contained in Rule 2-100 for marking electrical equipment addresses concerns regarding the safe use and operation of installations

by requiring “other markings necessary to ensure safe and proper operation” as indicated in Subrule (m).

This Subrule, however, is rarely applied because of its vagueness, so let’s consider an application of this Subrule with other markings that can increase safety. A good example relates to new Rule 4-004(23), where service conductors for a single dwelling are permitted to be reduced based on

the calculated load. In a 100A single-dwelling service, for instance, #4 AWG copper conductor is permitted to be installed as a service conductor based on an 89A calculated load.

Were the panel marked with a warning “Caution! 89A Maximum Load”, would it increase safety? Yes, because it would alert the consumer to consider the loading capabilities of the service before adding considerable loads, such as hot tubs or electric vehicle charging stations.

Generally, the requirements contained within Rule 2-100 “Marking of equipment” help support compliance with other CE Code requirements with regard to the proper use and maintenance of an electrical installation, as they provide individuals with valuable information regarding the characteristics of an installation. **EB**

Nansy Hanna is the director for Engineering & Program Development at Electrical Safety Authority (ESA) where, among other things, she is responsible for product safety, code development, improving harmonization and alternative compliance, worker safety, and aging infrastructure programs. She is a LEED-Accredited Professional and a member of CSA CE Code-Part I, Sections 24, 32, 46, 50 and 64. Nansy can be reached at [nansy.hanna@electricalsafety.on.ca](mailto:nansy.hanna@electricalsafety.on.ca).

Always consult your AHJ for more specific interpretations.

**! EDUCATE AT THE SPEED OF NOW!** What better way to show off your expertise than by having us orchestrate your very own **WEBINAR**, or sponsoring a subject matter expert? That’s quality education for a fast-paced world. **VISIT [EBMAG.COM/ADVERTISE](http://EBMAG.COM/ADVERTISE)**



**SAVE \$26 WHEN YOU PURCHASE THE 2015 CE CODE PACKAGE**

Having both the Code and the Handbook gives you the confidence of knowing that background information, rationale, and explanations of sections and clauses that require further clarification are easily accessible. **Get Your CE Code Package NOW!**

[www.shop.csa.ca](http://www.shop.csa.ca)

855 877 7993





PROTECT  
YOUR  
PEOPLE  
AND  
EQUIPMENT



## MERSEN SURGE-TRAP® SURGE PROTECTIVE DEVICES

With a minimal investment, you can protect your entire facility from surge events. Mersen's Surge-Trap product line offers a world-class suite of surge protection products designed to protect your facility from harmful and preventable surge damage.

- Designed with the industry leading Mersen TPMOV® Technology
- For use in ANSI/UL/CSA Type 1 SPD installations

# How many rewards can you find in this ad?

Visit [ADRewards.ca](http://ADRewards.ca) to see them all.



With AD Rewards, customers are rewarded for purchasing participating suppliers' products from an AD Canada Distributor. You earn one point for every dollar spent<sup>(1)</sup> at any AD Rewards Distributor<sup>(2)</sup> across Canada. You may already have points from purchases and not even know it. It's the best rewards program in the industry. Isn't it time you started rewarding yourself today?

Browse our catalogue at [ADRewards.ca](http://ADRewards.ca)



**EXCLUSIVE PROMOS & GIVEAWAYS | NO CARDS, NO HASSLES | FAST DELIVERY | EASY ENROLLMENT**

<sup>(1)</sup> Points earned on purchases from participating AD Canada Distributors and participating suppliers only. <sup>(2)</sup> Rules on website apply.



[ADRewards.ca](http://ADRewards.ca)