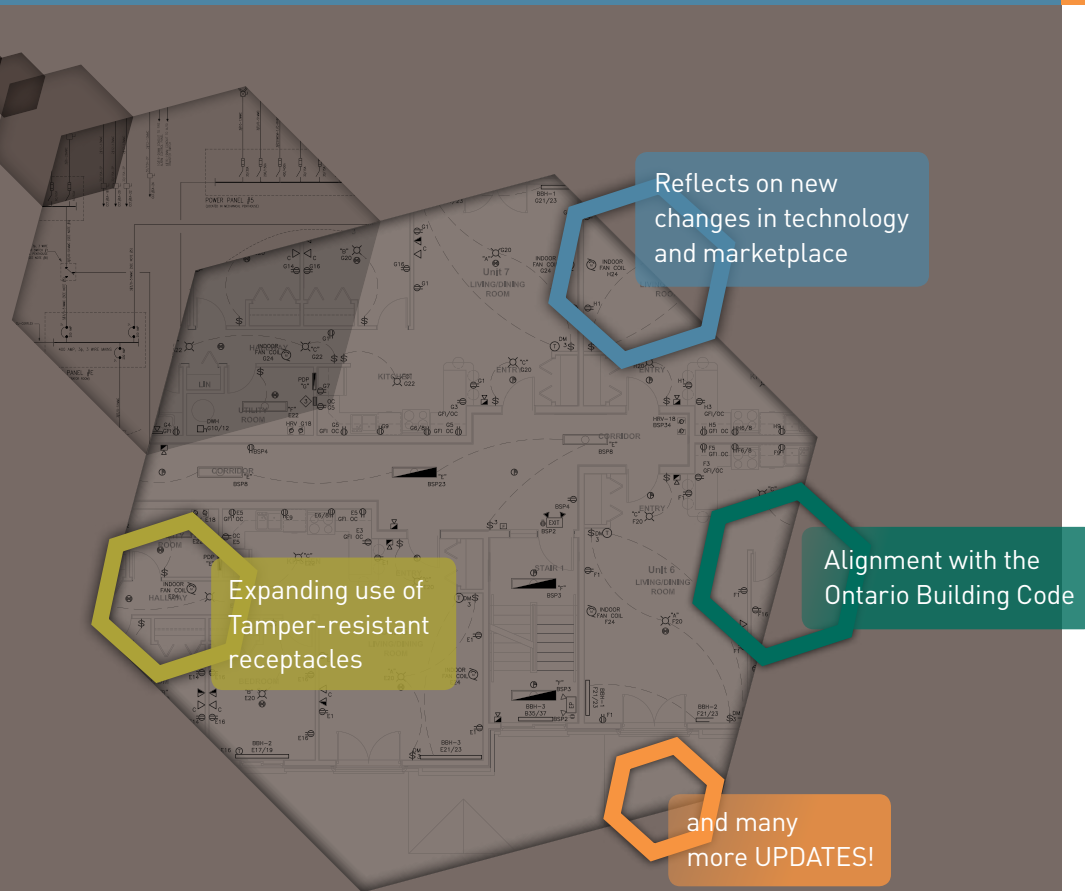


PLUGGED TM **in**

News, Views and Updates from the Electrical Safety Authority

Spring 2019



Reflects on new changes in technology and marketplace

Expanding use of Tamper-resistant receptacles

Alignment with the Ontario Building Code

and many more UPDATES!

GET UP TO SPEED WITH THE
Ontario Electrical Safety Code (OESC)

Level Playing Field for LECs [p.5](#)

2018 OESC: Important Dates You Need to Know! [p.6](#)

Risk-based Oversight and Wiring Fees [p.7](#)



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What's Inside

2 Year-to-Date Convictions

3 Technically Speaking

7 Worth Knowing

Convictions Sept. 1, 2018 – Dec. 31, 2018

Convictions of Unlicensed Individuals

Garett Shular, Port Elgin

Installation of a hot tub

- \$3,000 fine, plus \$750 victim surcharge
- no EC licence

Kenneth Wist, Arran Elderslie

Installation of a hot tub

- \$1,000 fine, plus \$250 victim surcharge
- unsafe electrical conditions

Gord Lennon, Cache Bay

High voltage pole wiring

Previously convicted

- \$10,000 fine, plus \$2,500 victim surcharge
- no EC licence

Alexandar Jonel Apetri, Toronto

Complete basement wiring

- \$3,000 fine, plus \$750 victim surcharge
- no EC licence

Mathew Bianco, Mount Hope

Basement electrical

- \$3,000 fine, plus \$750 victim surcharge
- no EC licence
- \$3,000 fine, plus \$750 victim surcharge
- unsafe electrical conditions

Holler Electrical Ltd, London

Various electrical work at three locations

Former Licensed Electrical Contractor

- \$7,000 fine, plus \$1,750 victim surcharge
- no EC licence 3 counts
- \$3,000 fine, plus \$750 victim surcharge
- failure to apply 3 counts

John Henry Hernadi (Jr), London

- \$4,000 fine, plus \$1,000 victim surcharge
- no EC licence 2 counts

- \$1,000 fine, plus \$250 victim surcharge
- failure to apply 2 counts

Darren Duchesne, Callander

House wiring

- \$3,000 fine, plus \$750 victim surcharge
- no EC licence

William Paul Turcotte, Corbeil

Basement apartment renovation

- \$3,000 fine, plus \$750 victim surcharge
- no EC licence
- \$3,000 fine, plus \$750 victim surcharge
- unsafe electrical conditions

Rejean Langlois, operating as**R.L. General Contractor, Ottawa**

Basement wiring

- \$3,000 fine, plus \$375 victim surcharge
- no EC licence
- \$1,500 fine, plus \$750 victim surcharge
- failure to apply

**Tamim Mohammed, operating as
Precise Electrical Solutions Inc.,
Ottawa**

Various electrical work at 53 locations while unlicensed while a licensed electrical contractor obtained the permits. Precise Electrical Solutions Inc. has since been reinstated as a licensed electrical contractor.

- \$7,000 fine, plus \$1,750 victim surcharge
- no EC licence

Paul Andrews, Orillia

Solar work

- \$2,000 fine, plus victim surcharge
- no EC licence

Peter Wetzel, Innisfil

Solar work

- \$2,000 fine, plus victim surcharge
- no EC licence

Convictions of Licensed Electrical Contractors

Andruan Khvorostian, Ottawa

Obtained 52 permits for an unlicensed contractor

- \$8,000 fine, plus \$2,000 victim surcharge
- permitting an unlicensed contractor to do work

Allan Anderson, Oshawa

Failed to apply for inspection

- \$3,000 fine, plus victim surcharge
- Total fine \$9,000 plus \$1,250 victim surcharge

If you are aware of anyone doing electrical work in violation of the Ontario Electrical Safety Code or electrical contractor licensing regulations, report it to ESA at 1-877-372-7233 or at esasafe.com and you can do so confidentially. ESA looks into every such report we receive.



Requirements for Installing an Identified (Neutral) Conductor at Each Permanent Lighting Control Location

One of the main changes of the upcoming 2018 OESC is a new requirement under **Rule 4-022, Installation of identified conductor**, to install the identified conductor at **each** control location of permanently installed luminaire that also includes manual control devices (switches). The reason for that requirement is to ensure that when a manual switch is changed to an automatic control device the identified conductor is ready for connection.

Manual switches do not utilize the identified conductor. However, automatic devices (such as a motion sensor, a photocell or a light dimmer) and energy management devices often require it for proper operation. In order to allow these devices to function properly, especially with LED lamps,

these devices utilize the bonding conductor as a return path for current. Since the identified conductor is not typically present at the switch location, and the control device only have a bond terminal, installers currently utilize the bonding conductor as a return path conductor. The increased use of LEDs lamps and electronic controls on existing buildings has surfaced this issue of leakage current on the bond conductor.

The product standard CSA 22.2 No 184 and 184.1 "Solid-state lighting controls" "Solid-state dimming controls (Bi-national UL 1472)" permit a very small amount of leakage current (0.5mA) on the bonding conductor, which should not be a safety concern. However, it was noticed that when large number

of devices are connected to a single installation, the cumulative current from all devices may be a potential safety concern. Bonding conductors should never be used as a current carrying conductor; it is a potential hazard for installers who do not expect any current on a bonding conductor during normal operation. Therefore, the new requirements for installing an identified (neutral) conductor to be used as a return path will increase safety and ensure a code compliant installation. With this new requirement in place, it will be easier to install electronic control devices that include a dedicated terminal for the identified conductor. Eventually, this permission in the product standards should be removed and devices that leak current to the bond conductor will become extinct.

Here are two questions ESA received about Rule 4-022.

Q Does the requirement of Rule 4-022 2) apply to installation of replacement switches that control luminaires?

- No, unless the new control device (such as an occupancy sensor) is an electronic control device and requires the installation of an identified conductor.
- The code is not retroactive, so the new requirements shall not apply if the new device is a manual switch similar to the existing one.

Q Where the wiring method to a lighting control switch is using a raceway, can the identified conductor as required by Rule 4-022 2) be omitted if the lighting control switch installed does not require the identified conductor?

- Yes, in **Ontario**, notwithstanding Rule 4-022 2) for other than **dwelling units**, it shall be permitted to omit the installation of the identified conductor where the raceway allows for future installation of the branch circuit identified conductor to the lighting control.
- Commercial/industrial sites are typically maintained by qualified staff who can easily install the conductor in an existing raceway if the lighting controls are changed to a style that requires it.

Did You Know that Both Licensed Electrical Contractors (LEC) and Designated Master Electricians (DME) are Responsible for Working Safely?

It is an LEC's duty to ensure that all electrical work is carried out in accordance with all applicable laws, including the OESC, laws relating to health and safety, employment standards, consumer protection, business practices and tax laws.

Did you know that a DME also has a responsibility, on behalf of the LEC, to ensure that the electrical work is carried out in accordance with applicable law, including the OESC and laws related to consumer protection and health and safety?

Here are some examples of what may constitute unsafe activities:

- ➔ Unnecessarily working with energized equipment that poses a risk to safety for themselves, other workers, or the public.
- ➔ Failure to use proper personal protective equipment.
- ➔ Failure to follow lockout/tagout requirements.
- ➔ Repeated pattern of performing work that fails to conform to the OESC requirements or any incident where non-compliance is sufficiently serious to potentially cause harm to property and/or the public.
- ➔ Failure to take out all electrical permits and request inspections where required by the OESC.

If you need further information regarding your licence obligations or to learn more about our discipline process when confirmed breaches of licensing obligations are determined, please contact the Licensing Department at 1-888-372-7233 or visit www.esasafe.com/licensing/licensing-info/guidelines

2019 Safety Awards Call for Nominations Now Open!

**We Want
to Hear
Your Story
This Year!**

Have you gone above and beyond to address serious electrical safety issues that could have posed a threat to a homeowner, a family, or the community? Or perhaps you or someone you know has created an initiative or program that helps keep people safe from electrical harm.

If you have a story to tell, ESA wants to hear from you! We want to celebrate and recognize your contributions that make Ontario a safer place to live, work and play – in the workplace or in the community.

Submit your nomination today!



Licensed Electrical Contractors Want a Level Playing Field

As an LEC you've taken steps to establish yourself and your company. You put in the hours to get your certificate of qualification, you obtained all the necessary licenses, you've built clientele, and then to have to compete with the underground economy? That's just not right!

We need your help in identifying individuals who are putting Ontarians at risk of electric shock or fire in places where they live, work and play.

They are competing unfairly with legitimate businesses like yours, and as an LEC you can help prevent unlicensed contractors from operating illegally.

Here are a couple of ways you can help:

First, if you are aware of someone working illegally you can report this to ESA. Just send an email to ESA.cambridge@electricalsafety.on.ca with the following information:

- ➔ Name of the company or individual doing illegal electrical work (if known)
- ➔ Site address and type of electrical work being done. If you don't provide complete address information, we may not be able to follow up on the information
- ➔ Date the work took place (if known)
- ➔ Include as much supporting information as possible including vehicle licence plate numbers or other identifying details.

If you don't know the name of the contractor or specific work being performed, send us as many details as you know, including the location that the work is being performed, so that ESA can follow up on the information. When making a report, you may remain anonymous. All information submitted will be reviewed, regardless of whether or not personal information is provided.

Second, when bidding on any project, leave the homeowner with some important information on what they should look for when hiring a contractor. For instance, does the company offer a contract, have liability insurance or Workplace Safety & Insurance Board (WSIB) coverage? Remind your potential customer that if they hire an unlicensed contractor, and the contractor or employees are hurt, the property owner could be held financially responsible.

Submit Your Safety Award Nomination Today!

Submissions are accepted from February 1 – May 24, 2019 in the following three categories:

- 1 **Powerline Safety**
- 2 **Worker Safety**
- 3 **Consumer and Home Safety**

The awards will be presented at the annual Ontario Electrical Safety Awards in Mississauga on Sept. 26, 2019.

Here's how: Visit www.esasafe.com/Awards2019 and either download the form or submit using the online version.



REMINDER: Updated OESC Effective May 16, 2019

The Electrical Safety Authority is advising stakeholders that the 27th Edition of the Ontario Electrical Safety Code will become effective on **May 16, 2019**.

Electrical work conducted on notifications (or plan review submittals) taken out after May 16, 2019 **must meet the updated requirements**. ESA strongly recommends that stakeholders familiarize themselves with these important changes ahead of the May 16, 2019 effective date.

The OESC has been updated to reflect reflects changes in technology and the marketplace, and incorporates feedback from stakeholders, technical reviews and new safety insights. The changes are designed to enhance electrical safety and protect workers and the public.

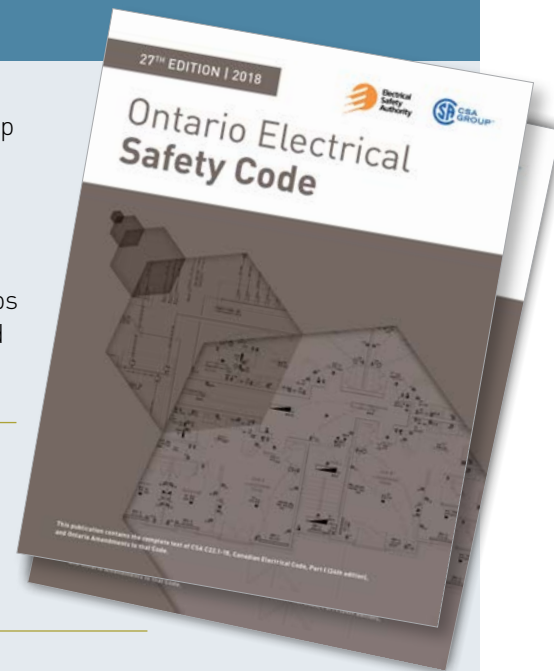
You can learn more about the new OESC [here](#). In addition, you can view all Ontario-specific amendments included in the 27th Ontario Electrical Safety Code and they can be found [here](#).

Ontario Electrical Safety Code Book Available for Order!

ESA partnered with the CSA Group to offer the Code book together with all ESA bulletins. The print version is available for \$219, and the digital version – accessible on smart phones, tablets and desktops and compatible with Windows and iOS – is available for \$195.

To order your print or digital copy of the 2018 OESC, please visit www.csagroup.org/oesc or call 800-463-6727.

Please note: bulletins are available electronically. After purchasing the Code book, register at [CSA Communities](#) to access the bulletins online.



Key Changes to the Ontario Electrical Safety Code

The 27th edition of the OESC includes important updates to wiring and installation requirements, including:

- Re-write of Section 10 requirements for bonding and grounding have been reorganized and reduced in size with some changes that will improve safety and simplify the installations;
- Expanding the use of Tamper-resistant receptacles in educational facilities and hotels/motels;
- Requirements for installing an identified (neutral) conductor at each control (switch) location of permanently installed luminaire;
- Alignment with the Ontario Building Code to prevent the installation of high-voltage conductors over buildings;
- Providing of adequate working space for electrical workers to undertake necessary repairs, maintenance and installation of transformers greater than 50kVA;
- Prohibiting of installation of cables in concealed locations in corrugated roof decking;
- Adding requirements for Energy Storage systems; and
- Facilitating the use of Power over Ethernet to provide a pathway for sources of electricity.

Risk-based Oversight and Wiring Fees Update

In early 2020, ESA will move to a risk-based approach called Risk-based Oversight (RBO) for electrical wiring. This means ESA will visit low-risk electrical wiring work less often than medium or high-risk work.

As all contractors in the province will operate under Risk-based Oversight, the Authorized Contractor Program (ACP) membership and ACP-specific wiring fees will be discontinued when RBO goes live in 2020. All LECs in Ontario will pay the same fees found in the ESA Fee Guide. Benefits that ACP currently offers, like pre-authorized connections, will still be available for LECs that meet eligibility criteria.

ESA is proposing that under RBO, **fees will not increase** from those in the existing fee guide, found at www.esasafe.com/contractors/esa-fees on ESA's website. Proposed **fee reductions** in the existing fee guide include:

- ➔ A reduction from \$79 to \$40 for up to 10 outlets and devices
– Residential renovation
- ➔ A reduction from \$124 to \$79 for 11 to 30 devices
– Residential renovation
- ➔ A reduction from \$125 to \$90 for 10 devices
– Residential renovation with service
- ➔ A reduction from \$174 to \$129 for 11 to 30 devices
– Residential renovation with service
- ➔ A reduction from \$79 to \$40 for up to 20 outlets and devices
– Commercial renovation

These modifications come after hearing feedback from LECs across the province during the most recent round of RBO town hall meetings. There will also be a formal notice and/or consultation for LECs and other stakeholders in summer 2019; however, ESA wants to give you as much notice as possible about these proposed modifications. ESA heard at the town halls that you need this advance notice for business planning purposes.

For more information on what Risk-based Oversight is and how it works, please visit www.esasafe.com/rbo.

Thank
You

ESA wants to thank all LECs who came to the town halls and provided feedback, or visited our website and submitted online.

A 2018 Fall Town Hall report that consolidates the feedback ESA received is available at www.esasafe.com/rbo. We know your time is valuable, and your opinion on how RBO should work is an essential part of making sure your business can benefit from RBO.



Town Hall Participants

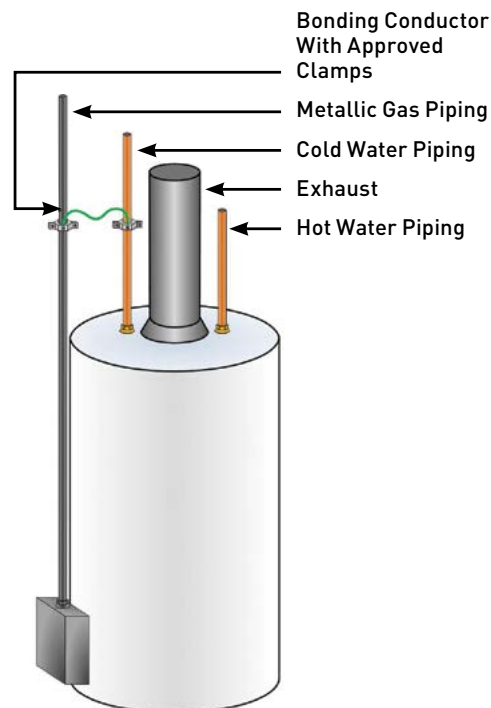
Defect of the Month – Bonding of Non-electrical Equipment 10-406

Over the past year, ESA Inspectors have issued more than 2,097 defects related to Rule 10-406 and the bonding of non-electrical equipment. Most of the defects that have been written are related to bonding of metal gas piping.

Rule 10-406 requires the interior gas piping system to be bonded with a minimum of a No. 6 AWG copper or a No. 4 AWG aluminum conductor, with approved clamps suitable for the conductor size and type.

Note: The Ontario Electrical Safety Code does not include requirements for bonding Corrugated Stainless Steel Tubing (CSST). If bonding is necessary, the location of bonding connections and the connection method should be according to the manufacturer's directions and shall meet the requirement of the Technical Safety Standards Authority.

Refer to Bulletin 10-14-* for more information.



What's Happening

2019 Ontario Electrical Safety Awards Call for Nominations

Feb. 1, 2019 – May 24, 2019

2019 Annual Meeting & Ontario Electrical Safety Awards

Sept. 26, 2019 - Living Arts Centre, Mississauga ON

2018 Ontario Electrical Safety Code – 27th Edition

Effective: May 16, 2019

2018 Ontario Electrical Safety Code Training Courses Available Now!

Click [here](#) to register for a course today!

- Training is a non-regulatory service offered by the Electrical Safety Authority (ESA). For more information visit www.esasafe.com/about-esa/non-regulatory.

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- facebook.com/ElectricalSafetyAuthority
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