News, Views and Updates from the Electrical Safety Authority

PLUGGED IN

SUMMER 2025

Electrical Safety Authority

Get a Grip on Vertical Conductor Supports

Learn what the Code Requires in High-Rise Installations

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Convictions

(March 1-May 31, 2025)

The following are convictions under the *Electricity Act, 1998* for violations of the legislation or the Ontario Electrical Safety Code, and have been prosecuted through the *Provincial Offences Act*.

Unlicensed

These convictions, which consist of those who have engaged in unauthorized (i.e., unlicensed) electrical work in Ontario.

Julian Solarte-Arango

Location: Niagara Falls, Britt and Thorold

Electrical work was performed at two residential properties by an unlicensed electrical contractor (non-LEC). Julian Solarte-Arango used another LEC's licence number to falsely obtain notifications (i.e., a permit).

Solarte-Arango was convicted of two counts of operating an electrical contracting business without holding an electrical contractor licence. He was also convicted of two counts of knowingly presenting as genuine a Notification of Work that had been falsely obtained.

An aggravating factor in sentencing Solarte-Arango was his status as a repeat offender. As such, he was sentenced to 15 days of incarceration.

Strak Holdings Inc.

Location: Caledon

Strak Holdings Inc. was subcontracted to perform electrical work at a residential property in Caledon.

The corporation was convicted and fined $20,000 on one count for operating without a Designated Master Electrician – a requirement for all electrical contractors. It was also convicted and fined $20,000 for failing to file a Notification of Work (i.e., a permit).

In addition, Rahyl Hassan, the sole officer and director of Strak Holdings Inc., was convicted on two counts: for operating an unlicensed electrical contracting business and for failing to file a Notification of Work. Hassan was fined $30,000 in total.

Former Licensed Electrical Contractor and Company Principal Fined $70,000 for Non-Compliance

On May 5, 2025, Strak Holdings Inc. ("Strak") and Rahyl Hassan ("Hassan") — Principal and Vice President at Strak — were convicted in Caledon on four counts after operating without a Designated Master Electrician (DME) and failing to file a permit with ESA for electrical work. **In total, Strak and Hassan were ordered to pay the court a collective $70,000 in fines for serious violations of the *Electricity Act*.**

The convictions stemmed from electrical work performed at a Caledon-based residential property in 2022. Strak had been subcontracted to perform rough-in electrical work as part of a full basement renovation. At the time of the work, Strak did not employ a DME. Moreover, Strak completed the rough-in work at the site without having filed a permit with ESA. As a result, the installation was not inspected by ESA. Despite this fact, Strak falsely advised the general contractor on the project that the rough-in work had been reviewed by ESA.

Relying on that false assertion, the general contractor followed up by drywalling the basement — which hindered proper oversight by the ESA and left the homeowners at risk for defective and unsafe electrical work.

Strak and Hassan were found to have contravened multiple conditions of licensure in Ontario.

In the province, every Licensed Electrical Contractor (LEC) must employ a DME. Without one, the LEC cannot legally operate. DMEs are responsible for ensuring all electrical work performed by an LEC complies with the Ontario Electrical Safety Code. In addition, failing to secure a permit with ESA is not only against the law, but runs contrary to fundamental safety and consumer protection principles. Work uninspected by ESA increases the risk of fire, shocks and other hazards. It is also worth noting that, in 2024, Strak's licence was revoked by the ESA after the ESA had learned of multiple instances of non-compliance.

Unlicensed Contractor — Including the Company's President and Director — Fined $18,000 After Committing Multiple Offences

In January of this year, the Ontario Court of Justice administered separate fines and probation orders against J & Y Construction Inc. ("J & Y"), its Director and its President in response to serious violations of the *Electricity Act.*

Between January and February 2023, J & Y was subcontracted by Juliette Homes to complete a bathroom renovation at a residential property in Hamilton. The renovation was designed to make the bathroom wheelchair accessible for the daughter of the homeowner. Juliette Homes hired J & Y believing it was licensed to complete all electrical work.

In reality, however, J & Y was a not a Licensed Electrical Contractor (LEC).

Despite not being licensed, J & Y performed extensive electrical work during the bathroom renovation, including running new wiring and installing new electrical switches, receptacles, light fixtures and a fan. J & Y never corrected the perception that they were licensed, and they never filed a Notification of Work with ESA.

After the renovation was completed, the homeowner discovered that the newly installed outlets caused electrical devices to turn on by themselves and flash unexpectedly. The homeowner contacted the ESA to report the electrical issues. The ESA's inspection, however, was hampered because the electrical wiring had already been covered with drywall.

It was ultimately discovered that several electrical defects were found with respect to the electrical work performed by J & Y.

Noting the aggravating factors at play in the case, the Court sentenced J & Y, its President and its Director, fines totalling $18,000. The fines accounted for the fact that work was performed without an electrical contractor licence, without filing a permit with ESA and for rendering an electrical installation inaccessible. Two-year probation orders were also issued against each defendant.

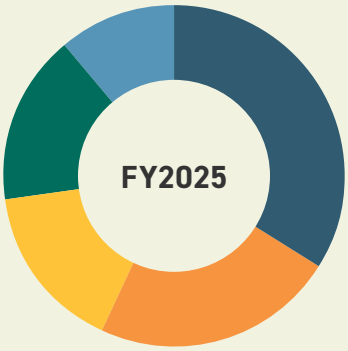
Reducing the Competitive Edge of Unlicensed Work Through Administrative Penalty Orders

This year, ESA continued to strategically leverage Administrative Penalty Orders (APOs) to bolster public safety and the integrity of the electrical trade. Introduced in April 2023, APOs have proven to be a crucial addition to ESA's enforcement toolkit, bridging the gap between warnings without penalties and the court system.

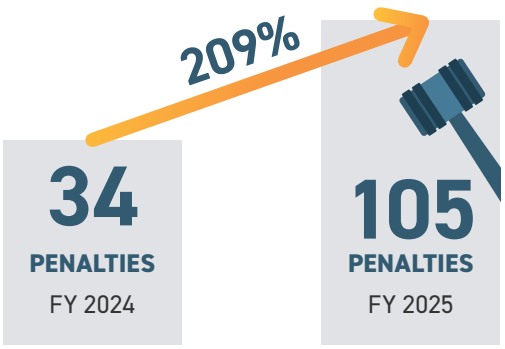
ESA significantly increased the number of APOs issued this past fiscal year, with 105 penalties being issued, as compared to the 34 issued the previous fiscal year. This represents a 209% increase in year-over-year growth. Notably, a significant portion of the APOs issued address critical issues relating to contraventions associated with the underground economy. Working without a licence (34%), working without a notification (23%), and illegal advertisements (16%) made up 75% of all APOs issued last fiscal year.

"APOs have proven to be a powerful tool in fostering a safer electrical landscape, directly motivating individuals to become licensed," said Emily Larose, Vice President, Regulatory & General Counsel at ESA. "Combined with our progress in collections, these penalties are vital in ensuring accountability for illegal and unsafe electrical installations within the underground economy."

ADMINISTRATIVE PENALTIES BY VIOLATION TYPE



- **34%** Working without a Licence
- **23%** Working without a Notification
- **16%** Illegal Advertisement
- **16%** Breach of ESA Order
- **11%** Permit/Employ (Unlicensed)



WANT A BETTER UNDERSTANDING OF THE ROLE OF ADMINISTRATIVE PENALTY ORDERS?

To learn more about ESA's process for issuing an administrative penalty, along with who may be subject to one and what the different types of contraventions are, head to: ESAsafe.com/administrative-penalties.

Getting a Grip on Vertical Conductor Supports

The RLB Crane Index North America Q1 2025 report shows that Ontario's operating tower crane count is increasing and, in fact, the city of Toronto currently holds the top spot of the 14 cities surveyed in Canada and the U.S. With so many tall buildings being erected, it's important to remember that conductors — whether installed in a raceway or contained in an armoured or sheathed cable assembly — require special consideration for their support when run vertically over extended distances. There are distinct differences in the acceptable means of supporting these conductors; they are determined by the conductor installation method and are described in the Ontario Electrical Safety Code (OESC) Rule 12-120 ("Supporting of Conductors").

An early version of OESC Rule 12-120 appeared in the first edition of the Canadian Electrical Code in 1927 as Rule 503 p); it specifically addressed support of vertical conductors in metal conduit work. Like the current Rule, it specified support intervals based on conductor size. Today, this Rule continues to provide conductor support requirements to ensure that vertical conductors will not slip due to the conductor weight under gravity, or experience damage to the conductor or its insulation. Damage can be caused by either inadequate supporting means or by overhanging the conductor on edges of equipment or fittings. The Rule also ensures equipment and terminations will not be subject to damaging strain imposed by the conductor weight.

FIGURE 1:
Wedge type support within an access box

For raceway installations, Table 21 prescribes the acceptable support intervals based on the conductor size and material. Wedge type grips (Figure 1) are one acceptable and commonly employed means to comply with the OESC requirements, however, other manufactured products that are approved for the purpose are also acceptable. In any case, the support means must maintain the continuity of the raceway, be installed in accordance with the manufacturer's instructions and be independent of the terminations.

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Getting a Grip on Vertical Conductor Supports

(Continued from page 6)

It is not permitted to support conductors in raceways by means of periodic offset bends or by any ratio of horizontal to vertical distances which are support means only recognized for cable installations.

For armoured or sheathed cable installations, Table 21 again determines the acceptable intervals for the internal conductor assembly supports. Like conductors in raceways, the support may be provided using approved manufactured products but, unlike conductors in raceways, additional options for support are available. One method is by incorporating the equivalent of not less than a 90deg bend at the specified interval found in Table 21. The Rule also provides for two other methods, neither of which rely on specific intervals for the supporting means.

The first option is to include a horizontal run of the cable that is at least equal in length to the vertical run. The second option is to use a cable specifically built for vertical runs which will have its inner conductor core designed to prevent slippage from the armour or sheath.

Planning vertical conductor runs — and how they will be supported to meet these requirements — is of paramount importance at the design stage of a project. This will ensure that any necessary enclosures housing the supporting means remain accessible, as required by OESC Rule 12-3014, as well as ensure the applicable support method for the conductor can be implemented within the specific building construction.

Notice of Code Changes Impacting Pools, Tubs and Spa Installations

DID YOU KNOW?

As part of the 29th edition of the Ontario Electrical Safety Code (OESC) that went into effect on May 1, there are now more specific requirements regarding equipotential bonding for pool and spa/hot tub installations.

BACKGROUND:

Most of the changes in Section 68 of the 2024 OESC (namely, Rule 68-058) aim to enhance the bonding continuity for pools and hot tubs. **Highlights include:**

- Requirement for **the pool water** to be bonded via a corrosion-resistant conductive surface.
- Depending on the type of pool and deck construction, **a copper grid** may be required to be constructed below grade with a minimum of No. 6 AWG bare conductor that extends outside of the pool shell.
- **Spa/hot tubs** may be required to be bonded to a copper ring of No. 6 AWG bare conductor embedded in conductive surfaces (e.g., concrete slabs). This aligns with the requirements of the equipment standards and their installation instructions.

UPDATE:

Enforcement Date Change for Pools, Tubs and Spa Installations

ESA encourages all pool, hot tub/spa installations to meet the new requirements for enhanced equipotential pool bonding.

However, based on industry request to provide more time to adjust, ESA will accept the previous code, OESC 2021 (Rule 68-058), for pool bonding requirements until October 1, 2025.

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Notice of Code Changes Impacting Pools, Tubs and Spa Installations (Continued from page 8)

Any notification of work filed on or after October 1, 2025, shall meet the revised Rule 68-058 of the OESC 2024. If ESA receives a complaint related to stray voltage involving pools or hot tubs installed during this transition period, it is expected that installers will cooperate fully by providing information on the installation and working collaboratively with ESA and local utilities to help resolve the issue promptly.

IMPORTANT REMINDER:

File the Correct Permits (Building and Electrical)

Pool and spa/hot tub installations usually need both a building and an electrical permit. The electrical permit (Notification of Work) with ESA is often overlooked, putting the installer, electrician and property owner at risk.

For more information on pool and spa/hot tub installations, read our bulletins: ESAsafe.com/bulletins

RESOURCES & TRAINING

Order Free Brochures for Your Clients

Our homeowner brochure explains ESA permitting, inspections and Licensed Electrical Contractors (LECs) in greater detail.

FREE copies are available at: ESAsafe.com/poolsandspas.

Director's Corner

Welcome ESA's New Director of Licensing, Sarah Kempel

(Effective April 1, 2025)

ESA welcomes Sarah Kempel as ESA's Director of Licensing, effective April 1, 2025. Sarah has been with ESA for over a decade, holding key leadership roles in Customer Service, Training and Licensing. She brings extensive experience leading teams, supporting licence holders and driving operational improvements. Sarah is passionate about working with and supporting Licensed Electrical Contractors (LECs) and Master Electricians (MEs). She looks forward to continuing to strengthen the licensing framework that supports their work.

A Message from ESA's Director of Licensing, Sarah Kempel

SARAH KEMPEL
New **Director of Licensing**

I'm honoured to step into this role and continue the important work our Licensing team delivers every day to support electrical safety, consumer protection and public trust. Our focus remains on strengthening the licensing system through collaboration, innovation and accountability.

This year, we'll continue using a risk-based approach to compliance — supporting responsible licence holders and taking action where serious or repeat non-compliance exists, especially in the underground economy. We're also investing in better tools, data and targeted education to help raise the bar across the sector.

Collaboration is central to our approach. I look forward to working with industry partners to explore new technologies, address emerging challenges and advance our shared goals: enhancing electrical safety, protecting consumers and strengthening trust in Ontario's electrical sector.

A major focus will be the launch of Licensing's new self-serve, online portal. The portal, coming later this year, will streamline services and make the licensing process more accessible, efficient and user-friendly for all licence holders. It's an important step forward in modernizing how we deliver licensing in Ontario. You can read more about the portal below.

I look forward to engaging with licence holders, industry leaders, safety partners and advisory councils in the months ahead as we continue building a licensing system that is fair, transparent and effective, together.

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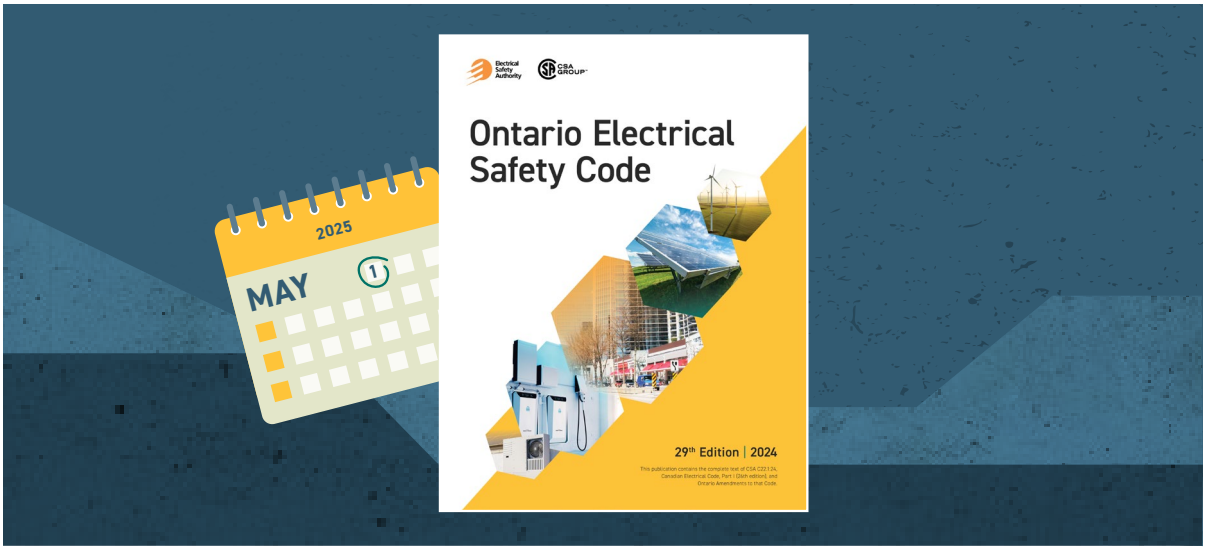
Director's Corner (Continued from page 10)

REMINDER:
The 2024 Version of the OESC Came into Effect May 1, 2025



On May 1, 2025, the 2024 Ontario Electrical Safety Code (OESC or "the Code") came into force. The law requires that all electrical installations in Ontario meet the requirements of the OESC.

If you perform electrical work in Ontario, you should have a current copy of the 2024 OESC. To access the new Code:

- Buy a copy from CSA Group
- View it for free (Ontario users only, free user account required)

All Bulletins have been revised and updated accordingly to align with the changes to the 2024 OESC. The OESC Bulletins are complimentary when you purchase the book from CSA Group. Please be sure to look at the first page of the OESC to see the instructions for accessing the Bulletins.

I also strongly encourage Master Electricians and all individuals performing electrical work to complete Code update training.

Staying current with the Code supports not only compliance but also reinforces a culture of safety and professionalism across the industry. Ongoing training strengthens your knowledge, reduces risk and helps ensure safe, code-compliant work.

ESA Training Solutions offers both in-person and online Code update courses, or you can choose a trusted provider in your area. Learn more about ESA Training Solutions' courses here.*

**Training is a non-regulatory service offered by the Electrical Safety Authority (ESA). Electrical safety and technical courses may be offered by other providers. View more information about ESA's non-regulatory activities here.*

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Director's Corner (Continued from page 11)

COMING SOON: A Self-Serve Portal for Licensing

A Simpler, Smarter Way to Manage Your Licence

This fall, Licensing is set to launch a new self-serve, online portal that will improve how you manage your licensing needs. The portal will introduce modern online tools to streamline how you apply for and renew licences, book exams, make payments, and more — all in one place.

What to Expect:

- Convenient online applications for ME and EC licences
- Online ME Exam registration
- Renewal of your ME and EC licence(s) online
- Electronic licence documents and receipts
- New Contractor Locator Tool connects consumers with licensed and authorized LECs, while also flagging unlicensed or unauthorized entities
- New Contractor Locator Tool highlights any relevant history of non-compliance, helping consumers make more informed choices
- Improved complaint tracking and compliance monitoring

What This Means for Licence Holders:

- Less paperwork and easier, more efficient self-service
- More transparency in how licences are managed
- Better tools for protecting the sector from unlicensed and repeat offenders

THE PORTAL IS CURRENTLY BEING DEVELOPED

We'll share more in the coming months, including launch timelines and how to prepare for the portal.

Licensing at a Glance: Numbers for FY2025

(April 1, 2024 – March 31, 2025)

UNLICENSED CONTRACTOR COMMUNITY

459 Notice of Violations Issued	**$96,950** Fines
122 Investigations	**64** Administrative Penalty Orders
27 Convictions	**$239,000** Penalty Amount

LICENSED ELECTRICAL CONTRACTORS

10,354 Licensed Electrical Contractors	⬆ **3.2% Increase**
16,921 Master Electricians	⬆ **3.7% Increase**
208 Licences Suspended	
27 Licences with Conditions	
9 Investigations	

Groundbreaking Real Estate Listing Blitz Boosts Compliance

In an effort to ensure electrical safety at homes listed for sale, ESA launched its first-ever safety blitz focused on real estate listings last year. Spanning 33 municipalities from Kitchener to Oshawa, the project focused on listings that mentioned electrical components often improperly installed by unlicensed contractors and cross-referenced them with ESA permit data.

The search identified 239 homes where electrical work was possibly performed without an ESA permit. Of the reviewed properties, ESA inspectors confirmed that:

- 75% of the homes visited did not have an ESA permit filed for electrical installations
- Five (5) locations were found to have had technical defects
- One (1) location had a Life and/or Property defect, posing a significant risk of fire or shock

ESA worked swiftly, sending inspectors to notify homeowners of the required corrections before the properties changed hands. **The result? Homeowners were responsive to learning that the work might be unsafe, and 92 permits were subsequently filed with ESA.**

Discussing the impact of the initiative, Cynthia Magill, Enforcement Coordinator, Licensing, explained, “these targeted blitzes are an excellent example of how ESA is embracing data to drive new, proactive safety initiatives. This allows us to better identify non-compliance, tackle the underground economy, and ultimately enhance electrical safety for all Ontarians.”

Powering Accountability: Third Round of ESA's DME Verification Process is Now Complete

Licensed Electrical Contractors (LECs) and Designated Master Electricians (DMEs) are partners in safety. Ontario Regulation 570/05 requires all LECs to employ a DME — DMEs are responsible for planning and supervising electrical work carried out on behalf of an LEC, ultimately ensuring it adheres to the Code. To proactively confirm DME employment among LECs, ESA recently launched a third round of its DME verification process.

ESA issued a Request for Information (RFI) to 150 randomly selected LECs and asked for proof of employment of their DME — typically this is done by providing ESA with a T4 slip or paystub. LECs in this round comprised a mixture of small and large businesses from across Ontario. Upon receipt of the RFI:

- **123 LECs (82%)** were in compliance and did have a DME on payroll
- **18 LECs (12%)** came into compliance after being educated on the requirements for employing a DME
- **9 LECs (6%)** were escalated to ESA's Licensing Compliance team and a Notice of Proposal to suspend their licence was issued:
  - **5 LECs** subsequently came into compliance
  - **2 LECs** had their licence suspended
  - **2 LECs** are under review for a potential compliance action

Since 2022, ESA has audited 558 LECs across three DME verification initiatives. With each successive initiative, the number of LECs that were not compliant with DME requirements decreased — going from 24% to 19% and, with the most recent initiative, down to 18%. Through initiatives like the DME verification process, ESA proactively ensures that licence holders meet all regulatory obligations and that electrical work is performed safely and responsibly, with DMEs playing a critical role in upholding safety standards and protecting consumers.

Is Your Email Address Current?

Almost half of all Master Electricians are still receiving their renewal correspondence via mail; are you one of them?

As Licensing is moving towards a new self-serve portal for licence holders, we are phasing out the use of paper correspondence.

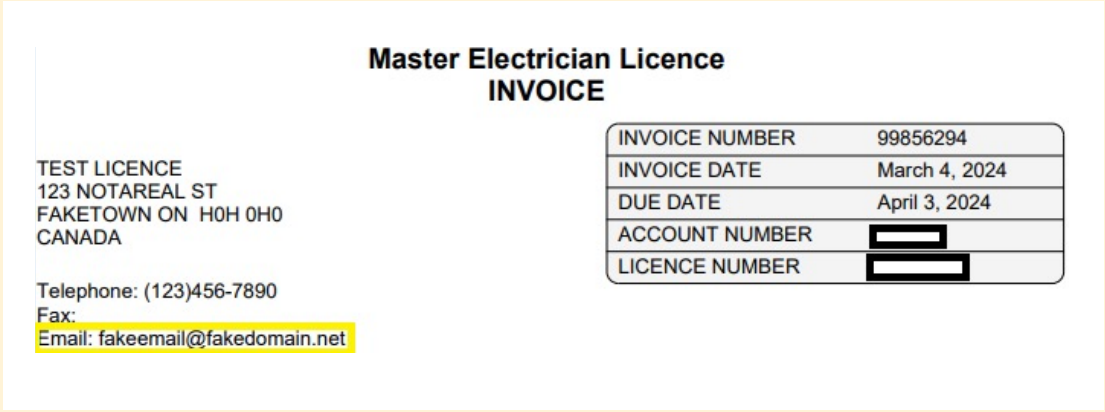
Elect to get your correspondence via email to streamline your interactions with ESA, reduce delays and help with electronic record keeping.

Check your latest invoice from ESA – most Licensing correspondence includes the email address we have on file:

If the email address is correct but your preferred method of correspondence is regular mail, please call our Customer Service Centre at 1-877-372-7233 to have your preferred method of correspondence be email.

To update your contact information, please call us at 1-877-372-7233 (option 3). You can also email a completed Notice of Change form to: ESA.Licensing@electricalsafety.ca.on.

Ensuring you have an active email address on file will make for more efficient and effective communication and will assist as we move towards a new online self-serve portal for licence holders.



Master Electrician Licence
INVOICE

TEST LICENCE
123 NOTAREAL ST
FAKETOWN ON H0H 0H0
CANADA

Telephone: (123)456-7890
Fax:
Email: fakeemail@fakedomain.net

INVOICE NUMBER	99856294
INVOICE DATE	March 4, 2024
DUE DATE	April 3, 2024
ACCOUNT NUMBER	[redacted]
LICENCE NUMBER	[redacted]

Are Your Work Contacts Up to Date in the ESA Online LEC Portal?

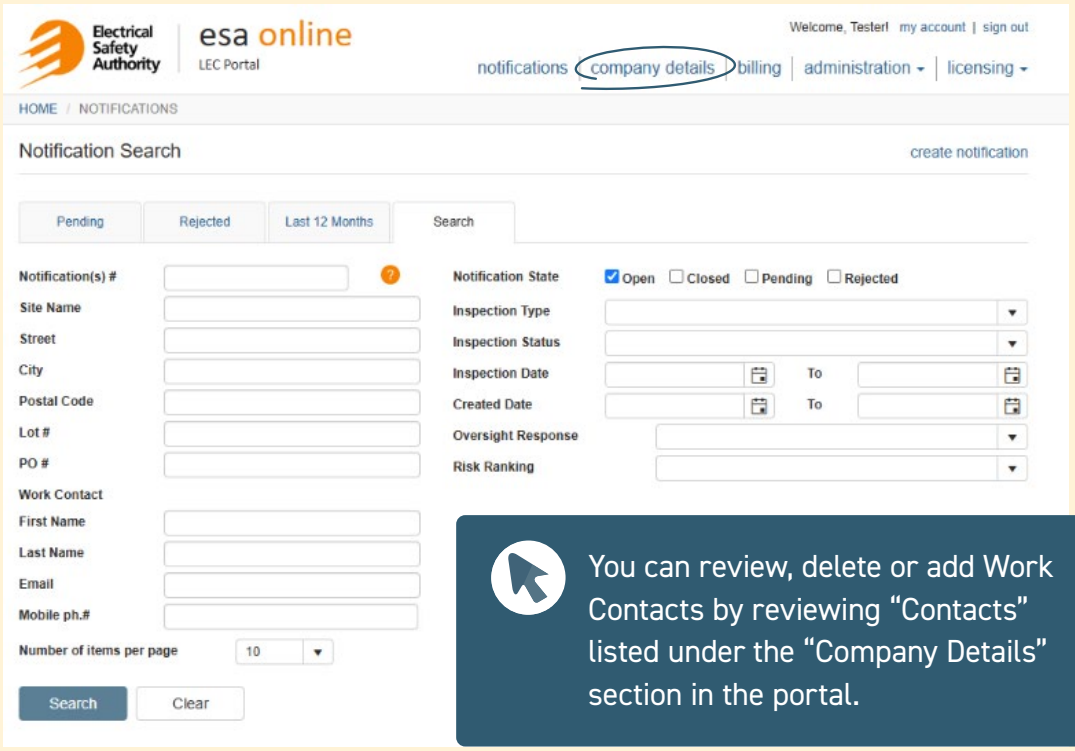
Whenever you file for a permit through ESA's Online LEC portal, you will be prompted to assign a Work Contact. Designated Work Contacts receive automated communications from ESA by email and/or text message that contain critical information regarding the status of a permit. Work Contact communications can include the date and time for when an inspector will be visiting a job site or confirmation that a permit has been passed by an inspector without requiring a site visit.

Work Contacts should be an official representative of a Licensed Electrical Contracting (LEC) business who is able to provide ESA inspectors with access to a job site when work is completed.

The homeowner on a job site should never be designated as a Work Contact for work completed by an LEC.

All LECs should review their listed Work Contacts in the LEC Portal on a consistent and ongoing basis. Please make sure your Work Contacts are accurate and not duplicated. Doing so will reduce administrative burden and ensure the right person on your team receives the critical information your business needs.

Ready to update your Work Contacts?
Head to the ESA Online LEC Portal now!



You can review, delete or add Work Contacts by reviewing "Contacts" listed under the "Company Details" section in the portal.

Explore a Career as an ESA Inspector

ESA's Technical Advisor, Diana Madill, shares her inspiring career journey from electrician to inspector and helps break down the role and responsibilities of this critical position.

Early Inspiration & Career Shift

Diana's interest in the electrical industry began at a young age, influenced by the tales of her grandfather and uncle, both of whom worked for Ontario Hydro. Her early exposure led her to take electrical courses in high school, followed by a co-op placement at a wastewater facility undergoing a significant expansion. This hands-on experience ignited her passion, which she pursued further by studying electrical engineering technology in college.

However, timing wasn't on her side. Just as she graduated, Ontario Hydro was undergoing major restructuring, leaving few job opportunities. Rather than be discouraged, Diana pivoted, choosing to pursue her 309a electrical licence and work in the trades. During this time, she worked closely with ESA inspectors and gained valuable on-the-job experience.

LISTEN TO FULL EPISODE

EPISODE 16
Exploring a Career as an ESA Inspector
Click Here to Listen

From Electrician to ESA Inspector

After years of working in the trades, Diana transitioned to becoming an ESA inspector. For her, this role was an opportunity to help others just as her inspector had helped her. While the move came with concerns, such as having to inspect parts of the trade she hadn't personally worked in, the ESA's comprehensive training and supportive environment eased her worries.

Diana highlights the sense of fulfillment that comes with the job. "I was improving safety every day," she explains, recounting how she helped contractors understand the purpose behind electrical codes, ensuring safer installations across Ontario.

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Explore a Career as an ESA Inspector

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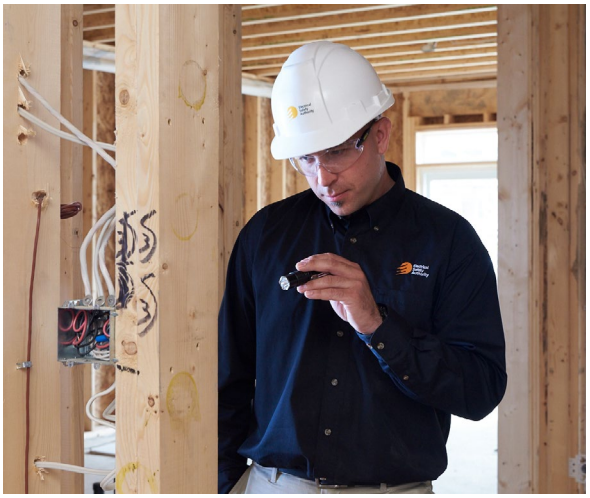


Finding Balance and Reward

Diana's move from being an electrician to an inspector also allowed her to achieve a better work-life balance — something many tradespeople might struggle with. The role's flexibility, combined with pension and benefit packages, gave her more control over her personal time, particularly important as she started a family.

Her progression didn't stop there. After several years as an inspector, Diana moved into her current role as a Technical Advisor, which she describes as her "perfect career." This position allows her to combine her love for teaching, problem-solving and research, all while staying connected to the industry she loves.

Why Become an ESA Inspector?

For those considering a similar path, Diana's advice is simple: go for it. ESA provides not only job security but also opportunities for growth, flexibility and continuous learning. She emphasizes that the transition from electrician to inspector is made easier by ESA's support system, and that the work itself is highly rewarding.

"ESA will really give you the opportunity to work with some of the most knowledgeable and dedicated professionals in the industry," Diana says. For anyone looking for a long-term career that challenges them intellectually, while allowing for a balanced personal life, joining ESA might just be the perfect fit.

If you're curious about career opportunities with ESA, visit ESAsafe.com/inspector

Follow Grounded in Ontario wherever you get your podcasts. Got a technical question or an idea for an upcoming topic on our show, we want to hear from you! Email us at: podcast@esasafe.com.

Pre-Master Electrician Training: Take the Next Step in Your Career

Becoming a Master Electrician is more than a career goal — it's an investment in your future. With ESA's 2024 *Pre-Master Electrician Course*, you'll get the expert-led training you need to prepare for the Master Electrician exam, expand your opportunities and lead with confidence in Ontario's electrical industry.

What You'll Learn

Our comprehensive course is designed to set you up for success by covering essential topics you need to know, including:

- **A detailed review of the Ontario Electrical Safety Code (OESC)**
- **Understanding business operations, financial management and licensing requirements**
- **Insight into legal responsibilities, liability and regulatory obligations**
- **Strategies for maintaining electrical safety standards and compliance**

Choose between self-paced online learning or instructor-led in-person sessions — whatever fits your schedule, needs and learning style.

Learn More

Register Here

Pre-Master Electrician Training: Take the Next Step in Your Career

(Continued from page 19)

Why Take the Pre-Master Electrician Course?

Whether you're aiming to run your own licenced electrical contracting business or move into a leadership role, ESA's Pre-Master Electrician Course offers real advantages.

1 EXAM READINESS*

Build the confidence and knowledge you need to pass the Master Electrician exam.

2 CAREER GROWTH OPPORTUNITY

Open the door to management, entrepreneurship, and higher earning potential.

3 EXPERT LED SUPPORT

Learn from experienced instructors who know what it takes to succeed.

4 FLEXIBLE LEARNING

Get the training you need, your way — online or in-person.

*Please note, the 2024 Pre-Master Electrician course is not a prerequisite for the Master Electrician exam but provides essential knowledge to successfully navigate the exam and the role of Master Electrician.

START YOUR JOURNEY TODAY

Advance your career. Grow your business. Become a leader in the electrical industry.

Course Overview

Get Started

STAY CONNECTED

Stay on top of new training courses, industry insights and other safety and technical resources from ESA Training Solutions. Sign up for our email newsletter updates and follow us on LinkedIn to get the latest news, resources and tips to help you advance your career and stay informed.

Subscribe Here

Follow Us on LinkedIn

Training is a non-regulatory service offered by the Electrical Safety Authority (ESA). Electrical safety and technical courses may be offered by other providers.

View more information about ESA's non-regulatory activities here.

ESA President and CEO Named One of Canada's Top Women in Safety

This past March, our organization proudly announced that Josie Erzetic, President and CEO at ESA, was named one of Canada's Top Women in Safety by the Canadian Occupational Safety (COS) magazine for 2025.

COS award winners were selected from hundreds of nominations and were chosen based on their contributions to the health and safety sector and for advancing equity, diversity and inclusion in the workplace.

Josie was appointed as the first female President and CEO of ESA in 2022. Since her appointment, Josie has advanced ESA's electrical safety mission by partnering with industry, expanding collaboration with other safety agencies, digitizing processes that foster compliance and using data to identify electrical safety issues of greatest risk to Ontarians.

Josie has also championed an inclusive workplace culture for everyone at ESA, and serves as the chair of the company's Inclusion, Diversity, Equity and Accessibility Steering Committee. In addition to growing ESA's cultural awareness and education programs, Josie has overseen the creation of a Truth and Reconciliation Action Plan to foster outreach to Indigenous communities, along with a provincial partnership with Jill of All Trades — an organization aimed at encouraging young women to pursue a skilled trades career.

Want to Learn More About Josie's Top Woman in Safety Win?
Check out her winner profile on the *Canadian Occupational Safety* website.

Meter Base Bonding: OESC Rule 10-210/Bulletin 10-15-*

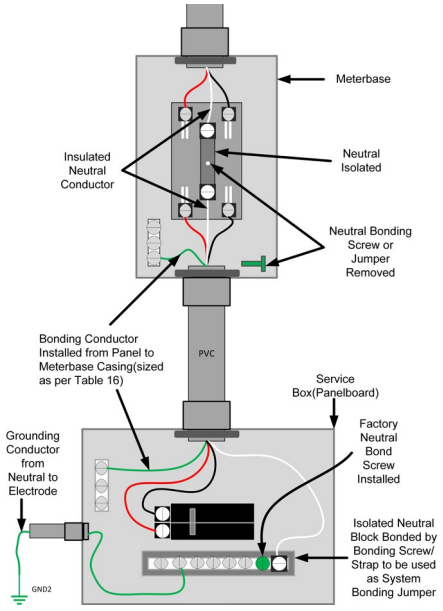
In the 2018 Ontario Electrical Safety Code (OESC), the requirements for bonding of solidly grounded systems changed with the introduction of Rule 10-210 d). Prior to 2018, the grounded conductor of a system, once bonded and grounded at the main service, could have no other bonding connections on the load side of the service disconnect. With the introduction of 10-210 d), the grounded conductor could have no other bonding connections on either the supply or load side of the system bonding connection; this meant that the system neutral in the meterbase ahead of the service disconnect could no longer be used to bond the enclosure of the meterbase. To allow the industry and manufacturers time to adapt to the new change, ESA published Bulletin 10-15-* — notwithstanding the requirements of 10-210 d) — allowing the existing practice in Ontario of the meterbase enclosure being connected to the system neutral to continue.

With the adoption of the 2024 OESC, Bulletin 10-15-* has been updated and the notwithstanding of 10-210 d) has been retracted with an effective enforcement date of October 1, 2025. This means the requirements of Rule 10-210 will need to be met for all new installations, as well as alterations (e.g., the replacement of both the service equipment and meterbase). This will not affect alterations or repairs that only involve the replacement of a meterbase so long as the new meterbase is a "like-for-like" replacement (i.e., same configuration and rating). It also won't affect the replacement of service equipment so long as the meterbase is not changed.

Contractors will need to be cognizant of the components they order when performing new installations, alterations or repairs to existing service equipment to ensure they meet the requirements of the 2024 OESC. For new installations or alterations that involve a single meterbase and a single service, the grounding and bonding of the grounded (neutral) conductor can be done either at the meterbase or at the service disconnect. In either case, a bonding conductor will be required to be installed between the meterbase and the service disconnect; it will need to be sized per Table 16 based on conductor size.

Bulletin 10-15-*: Diagram B1 – Grounding at single-gang meter base or service box

a) Grounding at service box



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Meter Base Bonding: OESC Rule 10-210/Bulletin 10-15-*

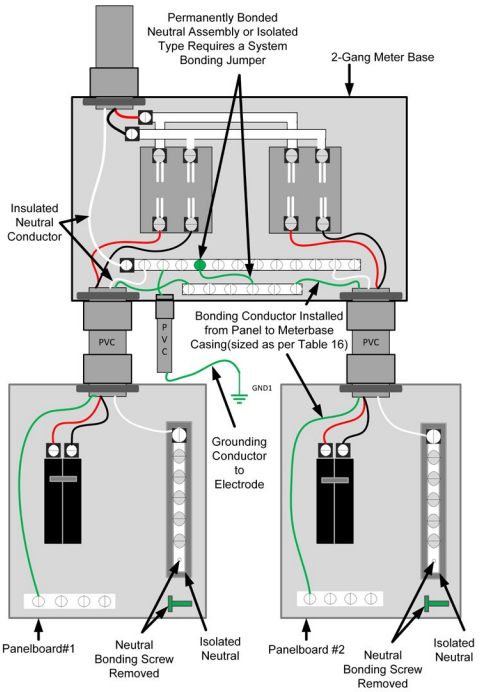
(Continued from page 22)

In new installations with multi-gang meterbases and multiple services, the grounded (neutral) conductor must be grounded and bonded at the meterbase, and bonding conductors must be run from the meter base to each individual service and be sized per Table 16 based on conductor ampacity. The grounding and bonding of existing installations can remain the same when performing alterations or repairs involving "like for like" multi-gang meterbases.

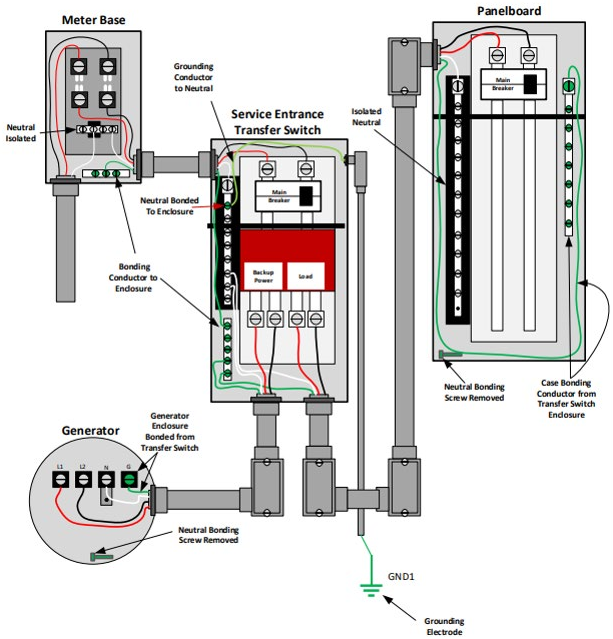
The installation of service entrance whole-house transfer switches will also be affected by 10-210, as well as the updates of Bulletin 10-24-* where the previous allowances will be retracted, effective October 1, 2025.

After this date, the requirements of 10-210 will be applicable to new installations involving service entrance whole-house transfer switches where grounding and bonding will be done in either the meterbase or service equipment. In this scenario, the transfer switch and bonding conductors will be required to be installed, as shown in Bulletin 10-24-* Diagram B1 for new installations. For alterations of existing services involving the addition of transfer switches, the direction is the same as alterations or repairs to existing services above, where the existing meterbase may continue to be grounded through the neutral conductor. However, the addition of a bonding conductor would be required to run from the transfer switch to the existing service panel in all situations, as shown in Bulletin 10-24-* Diagram B1.

Bulletin 10-15-*: Diagram B2 – grounding at multi-gang meter base



Bulletin 10-24-*: Diagram B1 – Code Compliant Installation Grounding at Transfer Switch



This Year's 'Hire an LEC' Campaign Concludes with Impressive Results!

We are thrilled to report that the 2024 results are now in for the *Don't Risk It: Hire an LEC* campaign, and they are remarkable — this year's campaign not only succeeded in meeting year-over-year benchmarks, it surpassed them!

The Campaign Generated **52.5 million views.**

One in five (20%) Ontario homeowners saw the campaign.

A significant majority (60%) of Ontario homeowners exposed to the campaign understood that only an LEC can be hired for electrical work, compared to 35% who did not see the campaign.

Over 112,000 users visited the campaign landing page to learn more about the risks of unlicensed work.

Nearly 49,000 users visited ESA's "Find an LEC" search tool — a 12% increase from the same period in 2023 and a 59% increase since 2022.

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This Year's 'Hire an LEC' Campaign Concludes with Impressive Results! (Continued from page 24)

NEW AND NOTEWORTHY CAMPAIGN PLACEMENTS

The 2024 LEC campaign was thoroughly integrated and unmissable, with advertisements appearing on billboards, radio, TV, social, digital and print media. Some new and noteworthy initiatives this year included:

- **A partnership with Home Hardware Thornbury** to develop co-branded safety materials (shelf-talkers for the electrical aisle, posters, post-cards at check-out).
- **Digital billboards** strategically placed within 1 kilometre of Ontario's largest home improvement retail stores, including Home Depot, Lowes and Canadian Tire.
- **A mobile billboard** on a fake electrician van stationed in front of retailers like Rona and Home Hardware, highlighting the importance of hiring licensed and filing for ESA notifications.
- **Geo-fencing of campaign creative**, so that Ontarians entering home improvement stores would be the most likely to be served our online advertisements.
- **The expansion of our "Trojan Horse" listings on Kijiji**, redirecting homeowners to our campaign landing page at the precise moment they were looking to hire an electrician.

Want to Learn More About the *Don't Risk It: Hire an LEC* Campaign?

Watch Our Award-Winning Video Case Study.

CODE CONUNDRUM

How Well Do You Know the Code?
Take Our Quiz and Test Your Technical Knowledge.

Q1

What is the maximum span from the nearest pole to a building for secondary NS90 conductors?

a. 10 m

b. 15 m

c. 23 m

d. 38 m

Q2

What is the minimum insulation temperature rating for supply conductors terminating on a three-phase, 5 hp, Class B, TENV motor?

a. 60° C

b. 75 ° C

c. 90° C

d. 110° C

Q3

What is the maximum length of cable permitted between a high-voltage terminal of a neon supply to the first neon tube when run in EMT?

a. 4 m

b. 6 m

c. 12 m

d. 16 m

Answers

Question 1: d. 38 m — *Rule 75-706 1)*

Question 2: c. 90 °C — *Rule 28-104 1), Table 37*

Question 3: b. 6 m — *Rule 34-404 1) a)*

Panel Marking

Every year, electrical inspections across Ontario reveal a consistent pattern of code violations that can lead to safety hazards, costly delays or even administrative penalties. Whether you're a seasoned electrician, a contractor or a homeowner tackling a renovation, understanding the most common defects found during inspections can save you time, money and, most importantly, lives. In this feature, we'll list some of the most common electrical code violations identified by ESA and take a closer look at Rule 2-100 for the marking of equipment.

The ESA identified over 143,000 reports of defects during the 2021 Ontario Electrical Safety Code (OESC) cycle. The most common defects found over the last 12 months include:

- Arc-fault circuit interrupters – misapplication of exemptions
- Ground fault circuit interrupters – required on all outdoor installations less than 2.5 m from grade
- Access – scheduling entry to properties and worksites
- Work description – vague or insufficient details for work, or worksite
- Panel marking – incomplete, incorrect, or missing
- Unapproved equipment – not certified for use in Ontario
- Make-shift equipment – not used as intended by the manufacturer
- Non-metallic cable wiring – (NMD90/ Romex) lack of support and protection
- Armoured cable wiring – lack of support and protection
- Outlet boxes – lack of, or improper support

Rule 2-100 "Marking of equipment" is consistently one of the most frequently written defects of any code cycle. More specifically, Subrule 3) requires at each distribution point, circuit breakers, fuses and switches to be marked in a conspicuous and legible manner to indicate clearly which installation or portion of installation they protect or control. In the past, panel directories were generic and may have listed items as "receptacles" or "lights". It is now encouraged to include more details in the description, such as the room or area that is controlled by that overcurrent device. The more detailed the directory is, the easier it is for an LEC or homeowner to isolate that circuit when needed. Bulletin 2-30-* has an example of how panelboards should be marked.

With the release of the 2024 OESC, there have been new subrules added to Rule 2-100 that installers need to be aware of. New Subrule 4) states, where feeders or branch circuits are added, removed, or modified at an existing panelboard, the marking required by Subrule 3) shall be updated. Often, during renovations, panels are full and converted from standard breakers to tandem breakers. Any of these modified circuits are required to be updated on the panel directory to reflect the current installation.

(Continues on next page)

Panel Marking (Continued from page 27)

Examples of correct and incorrect marking on residential panels are shown below:

PANEL - A					
CCT	Amp	Description	CCT	Amp	Description
1		Lights & Plugs	2		Lights & Plugs
3		Lights & Plugs	4		Lights & Plugs
5		Lights & Plugs	6		Lights & Plugs
7		Lights & Plugs	8		Lights & Plugs
9		Lights & Plugs	10		Lights & Plugs
11		Lights & Plugs	12		Lights & Plugs

PANEL - A					
CCT	Amp	Description	CCT	Amp	Description
1	15	Hall Receptacles	2	20	Kitchen Counter Recept N
3	15	Hall Lights and Smoke Det.	4	20	Kitchen Counter Recept S
5	15	S.W, Bedroom Recept.	6	15	Dining Recept
7	15	S.E, Bedroom Recept.	8	15	Living Room Recept.
9	15	N.W, Bedroom Recept.	10	50	Stove
11	15	Bedroom Lighting	12		

Note: This table does not represent a complete panel directory.

New Subrule 6) was also added as the requirement to mark panelboards was removed when Table 39 was taken out of the CE Code. Although Ontario kept and changed Rule 4-004 26) and Table 39, the marking wasn't needed because 90°C conductor ampacities matched the overcurrent protection, so there was no risk of overloading. Now, the marking requirement is back and applies where the ampacity of the conductors for a service or feeders based on the loads calculated in accordance with Rules 8-200 or 8-202 are less than the rating of the fuse or circuit breaker as detailed in new Subrule 6). A permanent, legible caution marking, located adjacent to the fused switch or circuit breaker nameplate to indicate the maximum load permitted, shall be field applied.

Following the OESC is key to keeping electrical work safe, efficient and code compliant. Many common defects, especially around proper panel marking under Rule 2-100, can be avoided with better attention to detail. The 2024 OESC updates, including new Subrules 4) and 6), make it even more important to clearly label and update panel directories when changes are made. By staying informed and following these rules, electricians and homeowners can help prevent delays, costly rework and safety risks.