Utility Advisory Council Meeting

Minutes of Meeting
February 15, 2018
10:00am – 2:15pm

Centre for Health and Safety Innovation - 5110 Creekbank Road, Mississauga

Utility Advisory Council Members

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<td>Alectra Utilities</td>
<td>Vicky Khamar</td>
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<td>Guelph Hydro</td>
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<td>Hydro One</td>
<td>Darren Desrosiers</td>
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<td>Hydro One - Transmission</td>
<td>Ajay Garg</td>
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<td>Hydro Ottawa</td>
<td>Edward Donkersteeg</td>
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<td>Kitchener-Wilmot Hydro</td>
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<td>CSA Group</td>
<td>Tania Donovska</td>
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<td>IHSA</td>
<td>Dean Dunn</td>
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<td>Ministry of Energy</td>
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<td>Ontario Energy Board</td>
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<td>Bell Canada/Telecom Industry</td>
<td>Tony Pereira</td>
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<td>Consumer Advisory Council</td>
<td>Joan Pajunen</td>
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<td>Industry Advisory Council</td>
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<td>Power Workers Union</td>
<td>Serge Laflamme</td>
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Other Attendees
Mary Beth Fazzari (Ministry of Government & Consumer Services), Rob Koekkoek and Mike Mason (Orangeville Hydro Limited), Lori Gallaugher (Utilities Standards Forum)

ESA Attendees
Normand Breton, Martin Post, Jason Hrycyshyn, Farrah Bourre, Nansy Hanna, Patrick Falzon
1 Notice & Quorum
   - The meeting had quorum

2 Minutes of UAC Meeting
   The following motion was carried:
   **Motion: To accept the minutes of the November 29, 2018 meeting**
   **Motioned by:** Joan Pajunen
   **Second:** Darren Desrosiers
   **Motion carried.**

3 Review of open action items
   - Action Item 2017-04-02: Proposal on the value of having the Community Powerline Safety Alliance
     join the UAC and what are the next steps
     - The council had the following question:
       1. What is the reasoning for ESA holding the Community Powerline Safety Alliance
          meetings at the UAC meeting, and where does ESA see this going?
       2. How many people would be joining us for those meetings?
       3. If we add a 4th meeting back to the UAC and spend 2 half days discussing Community
          Powerline Safety Alliance items is there a concern that more UAC members will stop
          attending due to a perceived lack of value?
       4. Is the Community Powerline Safety Alliance a subcommittee of the UAC and if it’s not
          is the plan to make it a subcommittee?
     - Normand will take the questions back and discuss with Stakeholder Relations and
       Communications and the UAC Chair. Normand will bring back to the UAC a proposal
       outlining the value of having the Community Powerline Safety Alliance join the UAC and
       what the next steps are.
     - This item will be discussed at the meeting

4 Tree Trimming Clearance to Customer Owned Powerlines – Patrick Falzon (presentation)
   - The final document [Privately Owned Powerline Assets Know Your Responsibilities](#) has been
     approved and can be found on the ESA Website along with the [Tree Planting and Tree Trimming](#) guidelines

5 Chair and Vice-Chair Terms – Farrah Bourre
   - Both Chair and Vice-Chair terms are coming to the end of their second terms
   - ESA asked the Council if anyone was interested in being the Chair or Vice-Chair
   - The terms for the Chair and Vice-Chair are 2 years and can be renewed once
   - The Chair and Vice-Chair need to be a current voting member of the Council
   - ESA will be looking to do nominations at the next Council meeting
6 Notable Electrical Incidents: Metering Installation – Meter Ejected With Force – Jason Hrycyshyn (presentation)
- A 12S meter was ejected with force and found about 4 meters from the installation location with the front cover and sealing ring still attached and no evidence of arcing at the jaws
- Arcing and MOV damage was found inside the meter
- The Council was asked if they had experienced or heard of any similar incidents. No similar incidents are known to have occurred

7 Bulletin 84-1: Interconnection of Electrical Power Production Sources – Patrick Falzon (presentation)
- These systems have the ability to operate in parallel with the LDCs distribution system
- The equipment can be certified as CAN/CSA C22.2 No. 107.1/UL STD. 1741 and is marked “Utility Interconnected”
- There is a safety concern if the LDC is not aware of the installation as the device does not have a transfer switch, allowing users to inadvertently back-feed the distribution system
- When ESA inspects these types of installations they will verify interconnection arrangements have been made with the LDC and a Connection Authorization will be sent to the LDC
- LDC members asked ESA if they had any insight into what happens when there are many of these installations, that can be run in parallel with the LDCs distribution system, connected to a transformer and that transformer needs to be replaced. How does the LDC ensure these systems are disconnected before beginning work on their system?
  - It was discussed that sae work practices should still be followed by crews as there may be illegal generation systems installed
- ESA was asked how the OESC will handle these type of installations when they are installed in multi unit residential locations? An electrician isolates the LDC side and any back up generation from the site and is unaware that several residents have battery storage that can be run in parallel. Does ESA have a solution for handling these situations?
- There is currently an Ontario Amendment that could be reviewed by LDC members of the council. The review would take place in March and April of 2018. ESA will send a request for volunteers to the Council

ACTION: ESA will review Ontario Amendment for Section 64: Energy Storage System with volunteers from the UAC and review the inclusion of net metered installation information. A request will be sent out ahead of time requesting volunteers to participate. – Nansy Hanna (Action Item #2018-01-01)
8 **Ontario Amendments** – Nansy Hanna (presentation)

- Some of the Ontario Amendments relevant to LDCs were shared
- EV Charging requirement Q&A documents from the Ministry of Municipal Affairs were shown and are included with the minutes
- An update on the status of UL2735C Electric Utility Meters was provided

9 **Flash Notice:** [FN-01-18 - Solidly-Grounded Wye Transformers and 3-Wire Services] – Jason Hrycyshyn (presentation)

- It was noted that these types of installations have been in existence for many years. ESA was asked why it is an issue now, was this issue risk ranked and why it wasn’t addressed earlier.
  - The hazards of this type of installation have been addressed in OESC Bulletins before the existence of Regulation 22/04. Distributor specific bulletins started after Regulation 22/04 started.
  - ESA is not typically involved when an LDC changes from a delta to a wye system, which is when most of these installations get installed. The LDC would notify the customer of a shut down so the transformer can be changed and the customer is not aware of any safety issues.
- An LDC member had indicated that their LDC has had an approved standard for this type of installation, to ensure a safe installation. The LDC asked if they would need to visit the locations built after the standard was approved to confirm they were indeed built to the standard.
  - No. Locations built after an approved standard or similar type of direction existed within an LDC would not need to be included/reviewed. ESA would expect that staff would have built the installations to satisfy the approved standard or similar direction as long as the LDC is in compliance with Reg 22/04 s.8
- LDC members would like to see a good plan in place for Phase 2 before moving forward and have asked ESA to create a plan for handling the unsafe installations that can be endorsed by the UAC before proceeding.
  - ESA found that input in regards to Phase 1 was valuable and expects a similar process for Phase 2. ESA is waiting to draft Phase 2, until ESA can assess the potential size of the problem for each LDC.
- Ultimately, ESA is proposing not to dictate to the LDCs a plan to fix the installations. ESA is proposing instead to let each LDC propose a plan to ESA.
- ESA is currently finalizing the document from the Transformer Configurations Working Group that will assist LDCs in some potential solutions
- LDC members of the Council will meet offline to create a proposal for the Phase 2 Flash Notice and provide to ESA for consideration
10 Guideline Revision: Guideline for the Excavation in the Vicinity of Utility Lines  
Jason Hrycyshyn (presentation)
- The joint Guideline produced in collaboration with TSSA is still available on the [ESA Website] and a LDC will still be in compliance with the Regulation if using this guideline.
- ESA, TSSA, Ontario One Call and the Ministry of Government and Consumer Services are finalizing a further update to the guideline. ESA has provided comment on the updated guideline and will review when the other stakeholder have completed their discussions.

11 Community Powerline Safety Alliance – Farrah Bourre (Action Item 2017-04-02)
- The Community Powerline Safety Alliance (CPSA) meets one or two times per year and they discuss the same topics that are covered at the UAC. ESA would like to bring the CPSA in with the UAC so the discussions only need to be done once and more input on the direction of Powerline Safety campaigns can be given.
- The members of CPSA would not join the UAC, they would attend a UAC meeting for a few hours to discuss issues related to both councils.

Dean Dunn put forward the motion:
**Motion: To accept bring the Community Powerline Safety Alliance (CPSA) into the UAC for 1 meeting per year to discuss issues related to both councils.**
**Motioned by:** Dean Dunn  
**Second:** Greig Cameron  
**Motion Carried**

12 Powerline Safety Week – Farrah Bourre (presentation)
- ESAs Powerline Safety plan for fiscal year 2019 were shared with the council.
- Powerline Safety Week is May 16th to May 20th

13 LDC Scorecard Timelines – Jason Hrycyshyn (presentation)
- Annual due date for submission to the Ontario Energy Board (OEB) is April 30th.
- ESA will provide to each LDC two months prior to this date a soft copy of their Component B and Component C data.
- ESA will accept feedback up to one month prior to the annual due date.

14 Generators and Energy Storage Working Group – Jason Hrycyshyn (presentation)
- Only a few responses were received from the working group members and ESA is currently putting a draft document together to take back to the working group.
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Electrical Distribution Safety

15 Audit of Utility Regulation Compliance Assessment Process – Jason Hrycyshyn (presentation)
- ESA has engaged a third party auditor to review how ESA assesses compliance with the Regulation
- ESA was asked about a Compliance Assessment statement indicating that a LDC is in compliance with the Regulation
  - Since ESA and the Auditors are only sampling the data from a LDC, ESA is not comfortable making the statement that a LDC is fully compliant
- ESA was asked about the possibility of a LDC not having to complete the audit annually if they have a clean audit the previous year
  - The current requirement within the Regulation is for an annual audit, so this would require a change to the Regulation. In addition, ESA has noted the issue, typically within smaller LDCs, where turnover of staff at smaller LDCs has left the new staff member without adequate training to meet the requirements of Regulation 22/04 on an ongoing basis.
  - ESA has also considered whether the audit report will have to be submitted to ESA each year. ESA has reviewed this issue and will continue to require the annual audit report to be submitted to ESA. As a matter of due diligence, ESA has an obligation to be aware of any issue is identified in the audit and ensure it is addressed by the LDC.

16 New Engineering Practices and Section 5 – Jason Hrycyshyn (presentation)
- ESA discussed scenarios where LDCs are approving plans and/or standard designs that do not meet the requirements of the approved Standards or Codes identified in Section 5 of Regulation 22/04
- If a LDC is looking into a practice which does not meet the requirements of Sections 4 and 5 of the Regulation ESA would like to be notified so guidance can be provided. ESA will review the issuance of a bulletin to ensure direction is clear for LDCs.
- ESA was asked about “where practicable” statements with the CSA Standard. ESA stated that most installations should be practicable to meet the standard and there may be limited scenarios where they might not. “Where practicable” would not be satisfied where no installations of an interconnected system were found to meet the requirements.
17 New Business

**Hydro One Locate Issues**

- Hydro One has noticed that instances where their underground infrastructure has been damaged where no locates have been issued has increased significantly (about 1/3 of all their underground contacts have no locates). Hydro One is asking ESA and the other LDC members if they have been noticing the same trend.

- Other LDCs have noticed that it is taking longer on average to get locates done (about 2-3 weeks).

- ESA can assist LDCs in dealing with companies that consistently dig into LDC infrastructure. Detailed information and consistent reporting from all LDCs would also assist in areas where contractors work in multiple LDC areas to determine repeat offenders. This type of information is also good to help determine Powerline Safety campaign focus for ESA.

**Motion:** To adjourn the meeting

**Motioned by:** Vicky Khamar

**Second:** Dean Dunn
Tree Trimming Clearance to Customer Owned Powerlines-UAC

Patrick Falzon,
Powerline Safety Specialist
Powerline Safety Group
Electrical Safety Authority
Feb 15, 2018
Update

- Final document has been approved and will be available in March on our website
- Will be available through the LDC toolkit dropbox
Electrical Incident

Meter Ejected with Force

Jason Hrycyshyn, P.Eng
Utility Advisory Council
February 15, 2018
Meter Ejected with Force

Electricity meter found with sealing ring and meter base front cover on the ground approximately 4m from the installation location.
Meter Ejected with Force

No evidence of arcing at the jaws.
Front cover lock may not have been installed correctly.
Meter Ejected with Force

Arcing and MOV damage inside the meter was evident.
Conclusions

1. A phase-to-phase fault event occurred.

2. A force was exerted on the meter due to the fault event.

3. Typically the meter’s front cover is locked into place and helps to prevent the force from causing an ejection of the meter. In this case, the locking mechanism didn’t appear to be installed as designed and did not prevent the force from causing the ejection.

4. This may be a typically type of failure of a meter, the front cover’s lock would appear to be why this was brought to ESA’s attention.

5. No compliance issues with Regulation 22/04 were identified in this compliance investigation.
Feedback Suggestions

1. Content of Findings
2. Experiences of the UAC members
Interconnection of Electrical Power Production Sources-UAC

Patrick Falzon,
Powerline Safety Specialist
Powerline Safety Group
Electrical Safety Authority
Feb 15, 2018
Section 84 of the OESC contains rules that applies to the installation of electric power production sources that interconnects with the supply authority.

84-002 General requirement
The interconnection arrangements shall be in accordance with the requirements of the supply authority.

84-022 Disconnecting Means
Disconnecting means shall be provided to disconnect simultaneously all electric power production sources from the supply authority.
Interconnection of Electrical Power Production Sources-UAC

- ESA has seen non solar installations such as
  - Power Walls
  - Gas engine micro combined heat and power systems (MicroCHP)
• **Important highlighted information**
  • The system operates in parallel with the LDC’s distribution system
  • The equipment is certified as CAN CSA STD C22.2 No. 107.1/UL STD. 1741
    • Devices that operate in parallel with the grid are required to meet the standard(s) and shall be marked as “Utility Interconnected”
  • Same standard and protection method for PV inverters
  • Not a transfer switch that will isolate the system from the grid
  • Allows the user to program the equipment to back-feed into the grid
Inspectors will verify if Rule 84-002 has been met
  - Interconnection arrangements with the LDC including location of Utility disconnect switch
Inspectors are required to send Connection Authorization to the LDC indicating parallel generation/upstream batteries.
Distributor Bulletin DIB-01-12 will be revised
Ministry of Municipal Affairs

Technical Support for Electric Vehicle Charging Requirements in the Building Code that are in effect January 1, 2018

Houses

Questions and Answers

Provided on December 19, 2017

This document is intended to provide guidance to assist with interpreting amendments to the building code. The application of the requirements depends on the situation. For legal advice, you may want to consult a lawyer. For the official version of the regulation, please see Ontario e-Laws under the Source Law section.
Building Code electric vehicle charging requirements applicable to *houses* are provided in Appendix A.

Questions and Answers

**Q1.** When will electric vehicle charging requirements be in effect?

A. These requirements will be in effect for building permits applied for on or after January 1, 2018.

**Q2.** Do all building permit applications submitted after January 1, 2018 need to demonstrate compliance with these requirements?

A. Some building permit applications may be subject to transition provisions which come into effect on January 1, 2018. In a certain number of specific cases, where the conditions of the transition provisions are met, the requirements related to electric vehicle charging infrastructure would not apply, if the building permit application is filed before January 1, 2020.

**Q3.** What are the transition provisions related to new houses?

A. Some building permit applications may be subject to transition provisions. In specific cases, where the conditions of the transition provisions are met, the requirements related to electric vehicle charging infrastructure would not apply, if the building permit is applied for before January 1, 2020.

The transition provision sets out that, new houses that are served by a garage, a carport or driveway would not have to meet the electric vehicle charging requirements, if before January 1st, 2018:

- the building permit applicant has a utility plan that has been approved by an electrical distribution company which details the electrical utility infrastructure that needs to be installed in the building,
or

- the building permit applicant has an agreement from the electricity distributor to connect the building to the electrical system.

and

- the applicant applies for a building permit before January 1, 2020.

If permit applicants have proved they received the necessary approvals from electricity distributors, that is understood to mean the project is far along in the approvals process and that it would be costly to alter the project. However the building permit must be applied for before January 1, 2020. Please see new Sentences (2.1) and (7) for transition provisions regarding small non-residential buildings and houses respectively (provided in Appendix A).

Q4. **What buildings do these electric vehicle charging requirements apply to?**

A. The requirements apply to a *house* that has its own garage, carport or driveway serving the *house* and is not exempt under Sentences (6) or (7).

Q5. **Do these requirements apply to existing houses or renovations?**

A. No.

Q6. **If the house contains more than one parking space in the garage, carport or driveway, does more than one parking space need to meet these requirements?**

A. No, electric vehicle charging requirements apply to one parking space per house.

Q7. **Is a townhouse or townhome a house?**

A. Yes. “house” is a defined term in the Building Code and means a detached house, semi-detached house or row house containing not more than two dwelling units. Townhouses or townhomes are considered, in the Building Code, to be “row houses.”
Q8. If there is a garage in a row house or there is a car port or driveway specifically serving that row house, do the electric vehicle charging requirements apply?

A. If the garage, carport or driveway serves the house, then the requirements would apply.

Q9. Do the requirements apply for buildings where the parking spots serving the row houses are provided in a common lot or in a separate parking structure?

A. If parking spaces serving row houses are provided in a surface lot, the electric vehicle parking requirements do not apply.

When parking spaces are located in a common garage exclusively serving the row houses, electric vehicle charging requirements would not apply because this would likely be considered a garage for a multi-unit residential building. The details of this situation would vary according to the design.

The Ministry of Municipal Affairs consulted separately on an electric vehicle charging proposal for apartment buildings (multi-unit residential buildings) where parking is provided inside the building. The feedback from those consultations is under review for potential inclusion in the next edition of the Building Code.

Q10. Do these requirements apply to stacked or back-to-back row house projects?

A. There are different Building Code requirements for a house, than for an apartment building or what is commonly known as a “multi-unit residential” building.

In stacked or back-to-back row house projects, certain units (but perhaps not others) may be served by their own garage or on-site driveway. In these cases, the electric vehicle charging requirements would likely apply to those houses. The details of this situation would vary depending on the design.

Generally, a building official may wish to consider if the garage serves the particular house and if it is connected to the electrical system of the house.

Q11. Some townhome projects have a detached garage for the unit, located across a laneway, for example. Do those houses need to meet the Building Code requirements?

A: The details of this situation would vary depending according to the design.
Generally, a building official may wish to consider if the garage serves the particular *house* and if it is connected to the electrical system of the house.

Q12. **If the builder wants to install energized electrical vehicle supply equipment instead of providing an empty conduit, would that meet the Building Code requirements?**

A. The Building Code contains minimum requirements that must be met or exceeded in order to comply.

If the building permit applicant chooses to provide a 200 amp panel and an energized plug to deliver Level 2 charging (e.g. 240V; 40amp), it would exceed the minimum requirements in the Building Code.

Q13. **Who is responsible for enforcement?**

A. The building official is responsible to check to see that there is a (minimum) 200amp panel (or approve an alternative solution that would not require a 200amp panel), and that, as a minimum, a conduit and box, as described in the regulation, has been provided.

The electrical inspector is responsible for making sure that the installation is in compliance with the Ontario Electrical Safety Code.

Q14. **Is there a specified location for the conduit and the termination of the conduit in the garage?**


The conduit, the box and the means to pull the wires into the conduit, as described in the requirement, are considered to be electrical equipment. Therefore, the building official needs to make sure that the box and the conduit exist; whether it has been installed safely would be part of the electrical inspection.

Exactly where the conduit terminates in the garage could vary if no charger or appliance for charging the electric vehicle has been installed. The Ontario Electrical Safety Code (Section 86) requires the electric vehicle connector to be able to couple to the electric vehicle. When the time comes to install the charging appliance for a particular vehicle, the conduit can be extended or shortened if necessary.
Q15. How can I find out more?

A. The Ministry of Municipal Affairs will be releasing additional technical guidance material in the coming days.

You can subscribe to CodeNews if you have not already subscribed or check in with the MMA - Building Code website for updates on the posting of other information.

For more information about the Electrical Safety Authority, please visit Electrical Safety Authority website.
Appendix A

Building Code Requirements for Electric Vehicle Charging in Houses and Small Non-residential Buildings

On December 19, 2017, Electric Vehicle Charging Requirements in Ontario’s Building Code were amended to provide an exemption for certain projects.

The EV charging requirements for Part 9 buildings are provided below. The new amendment is provided as underlined text.

9.34.4. Electric Vehicle Charging

9.34.4.1. Electric Vehicle Charging Systems

(1) Except as provided in Sentences (2.1) and (3), where vehicle parking spaces are located in a building, other than an apartment building, not less than 20% of the parking spaces shall be provided with electric vehicle supply equipment installed in accordance with Section 86 of the Electrical Safety Code adopted under Ontario Regulation 164/99 (Electrical Safety Code) made under the Electricity Act, 1998.

(2) The remaining parking spaces located in a building described in Sentence (1) shall be designed to permit the future installation of electric vehicle supply equipment that conforms to Section 86 of the Electrical Safety Code.

(2.1) Parking spaces located in a building need not comply with Sentence (1) where,

(a) before January 1, 2018,

   (i) an agreement was entered into between the owner of the land on which the building is to be constructed and a distributor, as defined in subsection 2 (1) of the Electricity Act, 1998, that sets out the conditions for the connection of the building to a distribution system, as defined in subsection 2 (1) of that Act, or

   (ii) a plan for the land on which the building is to be constructed respecting the siting and sizing of lines, transformers or other equipment used for conveying electricity was approved by a distributor, as defined in subsection 2 (1) of the Electricity Act, 1998, and

(b) an application for a permit to construct the building was made before January 1, 2020.
(3) Except as provided in Sentences (6) and (7), where a house is served by a garage, carport or driveway, the following shall be installed to permit the future installation of electric vehicle supply equipment that conforms to Section 86 of the Electrical Safety Code:

(a) a minimum 200 amp panelboard,
(b) a conduit that is not less than 27 mm trade size and is equipped with a means to allow cables to be pulled into the conduit, and
(c) a square 4-11/16 in. trade size electrical outlet box.

(4) The electrical outlet box described in Clause (3)(c) shall be installed in the garage or carport or adjacent to the driveway.

(5) The conduit and electrical outlet box described in Clauses (3)(b) and (c) shall provide an effective barrier against the passage of gas and exhaust fumes.

(6) A house need not comply with Sentence (3) where it,

(a) is not connected to a distribution system, as defined in subsection 2 (1) of the Electricity Act, 1998, or
(b) is used or intended to be used as a seasonal recreational building described in Section 9.36.

(7) A house need not comply with Sentence (3) where,

(a) before January 1, 2018,
   (i) an agreement was entered into between the owner of the land on which the house is to be constructed and a distributor, as defined in subsection 2 (1) of the Electricity Act, 1998, that sets out the conditions for the connection of the house to a distribution system, as defined in subsection 2 (1) of that Act, or
   (ii) a plan for the land on which the house is to be constructed respecting the siting and sizing of lines, transformers or other equipment used for conveying electricity was approved by a distributor, as defined in subsection 2 (1) of the Electricity Act, 1998, and
(b) an application for a permit to construct the house was made before January 1, 2020.

These requirements come into force on January 1, 2018. Please note these same provisions are included in Part 3 of the Building Code.
Ministry of Municipal Affairs

Technical Support for Electric Vehicle Charging Requirements in the Building Code that are in effect January 1, 2018

Non-residential Buildings

Questions and Answers

Provided on December 19, 2017

This document is intended to provide guidance to assist with interpreting amendments to the building code. The application of the requirements depends on the situation. For legal advice, you may want to consult a lawyer. For the official version of the regulation, please see Ontario e-Laws under the Source Law section.
Building Code electric vehicle charging requirements applicable to non-residential buildings are provided in Appendix A.

Questions and Answers

Q1. When will electric vehicle charging requirements be in effect?
A. These requirements will be in effect for building permits applied for on or after January 1, 2018.

Q2. Do all building permit applications submitted after January 1, 2018 need to demonstrate compliance with these requirements?
A. Some building permit applications may be subject to transition provisions. In specific cases, where the conditions of the transition provisions are met, the requirements related to electric vehicle charging infrastructure would not apply, if the building permit application is filed before January 1, 2020.

Q3. What are the transition provisions related to the requirements for non-residential buildings - such as workplaces - with parking in the building?
A. New non-residential buildings that have parking in the building would not have to meet the electric vehicle charging requirements if before January 1st, 2018:

- the building permit applicant has a utility plan that has been approved by an electrical distribution company which details the electrical utility infrastructure that needs to be installed in the building
  
or

- the building permit applicant has an agreement from the electricity distributor about connecting the building to the electrical system

and
• the applicant applies for a building permit before January 1, 2020.

If permit applicants have proved they received the necessary approvals from electricity distributors, that is understood to mean the project is far along in the approvals process and that it would be costly to alter the project. However the building permit must be applied for before January 1, 2020.

Please see Sentence (2.1) for transition provisions (provided in Appendix A).

Q4. What buildings do these requirements apply to?

A: Sentences (1), (2) and (2.1) apply to all buildings, other than apartment buildings, where there is parking integrated into the building design.

Q5. Do these requirements apply to existing buildings or renovations?

A: No.

Q6. Would these requirements apply if the parking spaces are on the roof of the non-residential building?

A: Yes.

Q7. Do these requirements apply to apartment or “condo” buildings (e.g. “multi-unit residential buildings”)?

A: No. In Fall, 2017, the Ministry of Municipal Affairs consulted separately on proposed new requirements for electric vehicle charging infrastructure for apartment buildings where parking is provided inside the building. The feedback from those consultations is under review.

Q8. In a non-residential building, if the garage is not planned to accommodate employee parking, does it need to meet the electric vehicle charging requirements? For example, in a hospital, only visitors may park in that garage.

A: Yes, the parking spaces need to comply with the electric vehicle charging requirements.
Q9. **What is “electric vehicle supply equipment”?**

A: Electric vehicle supply equipment (EVSE) is defined in Section 86 of the Ontario Electrical Safety Code: “a complete assembly consisting of conductors, connectors, devices, apparatus, and fittings installed specifically for the purpose of power transfer and information exchange between the branch circuit and electric vehicle”.

This is an example of a car being charged with electric vehicle supply equipment (EVSE).

Q10. **Given the definition of electric vehicle supply equipment, what is an acceptable solution to implement the Building Code requirements for non-residential buildings such as workplaces?**

A: In 20 per cent of the parking spaces, electric vehicle supply equipment needs to be provided. The Ontario Electrical Safety Code defines electric vehicle supply equipment and prescribes the electrical infrastructure that is needed to energize it.

There are different kinds of electric vehicle supply equipment on the market.
Q11. Is the provision of a receptacle sufficient to meet the requirements or does an apparatus need to be installed?

A: Providing only a receptacle is not sufficient. An apparatus, as described in the Ontario Electrical Safety Code, also needs to be installed or plugged in, in 20 per cent of the parking spaces.

Q12. Is there a specified location on the wall or on a post where the electric vehicle supply equipment is supposed to be located?


The Ontario Electrical Safety Code generally says that indoor sites need to be in locations where the electric vehicle connector can couple to the electric vehicle. Making sure that the appropriate specifications are followed is part of the electrical review and inspection.

The building inspector’s role is to ensure that 20 per cent of the parking spaces are served by electric vehicle supply equipment. The electrical safety inspector ensures that the electric vehicle supply equipment is installed according to the Ontario Electrical Safety Code.
Q13. For the other 80 per cent of the parking spaces, what needs to be provided so that they are “designed” to accommodate future charging?

A: This requirement is intended to minimize the cost and complexity of renovations that would otherwise be encountered if additional electric vehicle supply equipment is installed in the future. Meeting this Building Code requirement is intended to focus on construction requirements within the scope of the Building Code, rather than electrical infrastructure.

How these spaces may be provided with electric vehicle supply equipment in the future depends on the design of the building.

For example, the following could be considered:

- Providing sufficient space for installing additional electrical infrastructure such as a transformer, in the future, to accommodate electric vehicle charging to the additional parking spaces;
- If parking is provided on more than one floor, a way to conveniently draw/install wires between the electrical panel or branch panel and all areas with parking spaces without the need for structural alternation (e.g. providing a chase or conduit between floors to avoid needing to cut or drill through concrete floor or walls in the future).
- If a sufficiently sized conduit or sleeve is provided, it would need to be capped and labelled.

Q14. For the 80 per cent of the parking spaces, does electrical capacity need to be provided?

A: No.

Q15. If the building is a mixed use building such as a building that has both commercial uses and apartments, how many of the parking spaces need to include electric vehicle charging infrastructure?

A: If parking for commercial use is available inside the building, then 20 per cent of those commercial spaces would need to include electric vehicle supply equipment and the remaining 80 per cent of those commercial parking spaces would need to be designed to permit future installations, as outlined in the response to Q13.

Currently there are no electric vehicle charging requirements for apartment buildings.
Q16. **Who is responsible for enforcement?**

A: The building official is responsible for checking that electric vehicle supply equipment is installed in 20 per cent of the parking spaces. The building official also needs to make sure that provisions are in place for the future installation of electrical vehicle supply equipment in 80 per cent of the parking spaces, as outlined in Q13.

The electrical inspector is responsible for ensuring that the electric vehicle infrastructure is installed in compliance with the Ontario Electrical Safety Code. If electric vehicle supply equipment is installed, the installation must meet the requirements of the Ontario Electrical Safety Code.

Determining electrical capacity and installation of the electrical infrastructure is typically part of the electrical plans developed by the appropriate professional overseeing the electrical design in accordance with the Ontario Electrical Safety Code. These plans are typically reviewed by the Electrical Safety Authority’s Plans Review department.

Q17. **What if some of the electrical vehicle parking spaces are outside the building?**

A: 20 per cent of the parking spaces inside the building need to have energized electric vehicle supply equipment provided. The electric vehicle charging requirements do not apply to surface parking lots that are not a building.

Q18. **How is it decided who pays for the electricity?**

A: The Building Code does not specify who pays. There are several options for a building owner to recover the cost for parking in an electric vehicle supply equipment-enabled parking space. For example, some electric vehicle charging apparatus include features that are enabled to accept payment or to monitor charging so that it can be charged to the person who has parked there.

Q19. **Do the requirements apply to accessible parking spaces or buildings where large electric vehicles such as electric busses will be parked?**

A: These Building Code requirements apply to the parking spaces themselves; not to the kinds of vehicles that will be parked in the spaces.
Depending on the interests of the building owner and other relevant factors, he/she may choose to include electric vehicle supply equipment for accessible and/or for larger electric vehicle parking spaces.

Q20. **How do electric vehicle parking spaces need to be distributed within the building?**

A: There are no requirements governing where in the parking garage electric vehicle parking spaces need to be located. It would depend on the design of the building and the preferences of the building owner.

Q21. **How can I find out more?**

The Ministry of Municipal Affairs will be releasing additional technical guidance material in the coming days.

You can subscribe to [CodeNews](https://www.codeontario.ca) if you have not already subscribed or check in with the [MMA Building Code](https://mmb.on.ca/) website for updates on the posting of other information.

For more information about the Electrical Safety Authority, please visit the [Electrical Safety Authority](https://www.esa.on.ca) website.
Appendix A

Building Code Requirements for EV charging in Non-Residential Buildings

On December 19, 2017, Electric Vehicle Charging Requirements in Ontario’s Building Code were amended to provide an exemption for certain projects.

The EV charging requirements for Part 3 buildings are provided below. The new amendment is provided as underlined text.

3.1.21. Electric Vehicle Charging

3.1.21.1. Electric Vehicle Charging Systems

(1) Except as provided in Sentences (2.1) and (3), where vehicle parking spaces are located in a building, other than an apartment building, not less than 20% of the parking spaces shall be provided with electric vehicle supply equipment installed in accordance with Section 86 of the Electrical Safety Code adopted under Ontario Regulation 164/99 (Electrical Safety Code) made under the Electricity Act, 1998.

(2) The remaining parking spaces located in a building described in Sentence (1) shall be designed to permit the future installation of electric vehicle supply equipment that conforms to Section 86 of the Electrical Safety Code.

(2.1) Parking spaces located in a building need not comply with Sentence (1) where,

(a) before January 1, 2018,

   (i) an agreement was entered into between the owner of the land on which the building is to be constructed and a distributor, as defined in subsection 2 (1) of the Electricity Act, 1998, that sets out the conditions for the connection of the building to a distribution system, as defined in subsection 2 (1) of that Act, or

   (ii) a plan for the land on which the building is to be constructed respecting the siting and sizing of lines, transformers or other equipment used for conveying electricity was approved by a distributor, as defined in subsection 2 (1) of the Electricity Act, 1998, and

(b) an application for a permit to construct the building was made before January 1, 2020.
(3) Except as provided in Sentences (6) and (7), where a house is served by a garage, carport or driveway, the following shall be installed to permit the future installation of electric vehicle supply equipment that conforms to Section 86 of the Electrical Safety Code:

(a) a minimum 200 amp panelboard,
(b) a conduit that is not less than 27 mm trade size and is equipped with a means to allow cables to be pulled into the conduit, and
(c) a square 4-11/16 in. trade size electrical outlet box.

(4) The electrical outlet box described in Clause (3)(c) shall be installed in the garage or carport or adjacent to the driveway.

(5) The conduit and electrical outlet box described in Clauses (3)(b) and (c) shall provide an effective barrier against the passage of gas and exhaust fumes.

(6) A house need not comply with Sentence (3) where it,

(a) is not connected to a distribution system, as defined in subsection 2 (1) of the Electricity Act, 1998, or
(b) is used or intended to be used as a seasonal recreational building described in Section 9.36.

(7) A house need not comply with Sentence (3) where,

(a) before January 1, 2018,
   (i) an agreement was entered into between the owner of the land on which the house is to be constructed and a distributor, as defined in subsection 2 (1) of the Electricity Act, 1998, that sets out the conditions for the connection of the house to a distribution system, as defined in subsection 2 (1) of that Act, or
   (ii) a plan for the land on which the house is to be constructed respecting the siting and sizing of lines, transformers or other equipment used for conveying electricity was approved by a distributor, as defined in subsection 2 (1) of the Electricity Act, 1998, and

(b) an application for a permit to construct the house was made before January 1, 2020.

These requirements come into force on January 1, 2018. Please note these same provisions are included in Part 9 of the Building Code.
UL2735C Electric Utility Meters

Report by Ted Olechna

Timelines

25/11/2014 – Kick-off of Standard Technical Panel (STP) meeting Teleconference

6/4/2015 – initial STP meeting in Toronto

29/6/2015 - 1st Ballots and comments are due, received over 100 comments, from STP and public consultation

9/9/2015 - Comment Task Group start review of negatives and comments

2/9/2017 – 2nd ballot started

11/16/2017 - ballot closes with negatives, no consensus

Ontario Representation

TED OLECHNA ELECTRICAL SAFETY AUTHORITY
ROB MCKEOWN TORONTO HYDRO-ELECTRIC SYSTEM LTD
PANKAJ SHARMA HYDRO ONE INC
LORI GALLAUGHER UTILITIES STANDARDS FORUM

Negative submitted by Ted Olechna (ESA)

Add - 23.4 For METERS containing a SERVICE SWITCH as described in Clause 13 shall have marking "service switch equipped" or equivalent.

Reason:

It is important that this marking is visible on the meter, so that the location in relation to gas meters is kept at a specific distance. This is the issue of 2 meter clearance to arcing devices

Current – review of comments by UL project administrator and report back to STP

Stay Tuned for next steps
Flash Notice:
Transformer Configurations and Customer Services

Data Collection Program Update

Jason Hrycyshyn, P.Eng
Utility Advisory Council
February 15, 2018
ESA is requesting LDCs participate in a program to provide ESA information on customers with 3-phase, 3-wire services (no neutral conductor) that are supplied by 3-phase transformers with a wye-connected secondary and a solidly-grounded secondary neutral terminal, in your service territory.
Data Collection Program

Timelines / Due Dates:

<table>
<thead>
<tr>
<th>LDC Size Chart</th>
<th>Timeline (Due Date)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LDCs with &lt; 20,000 Total Customers</td>
<td>February 15, 2018</td>
</tr>
<tr>
<td>LDCs with 20,000 – 50,000 Total Customers</td>
<td>February 27, 2018</td>
</tr>
<tr>
<td>LDCs with 50,000 – 300,000 Total Customers</td>
<td>March 21, 2018</td>
</tr>
<tr>
<td>LDCs with &gt;300,000 Total Customers</td>
<td>April 4, 2018</td>
</tr>
</tbody>
</table>

Information to be sent to: Utility.Regulations@electricalsafety.on.ca.

During this program, ESA will **not** use the data collected in order to assess compliance with Regulation 22/04. The information shall only be used to assess and mitigate the hazard.

Installations not identified under this program, will be assessed for compliance with respect to Regulation 22/04.
Group #1: Due Today (February 15, 2018)

- Many LDCs from all Groups have provided their data.
- Some of the data received is confusing, however it is something ESA can work with.

- ESA sees no impediments in proceeding with the next phase of the program. This phase will be to create new groupings of LDCs and start to focus on identifying and creating Corrective Action programs.
Guideline Revision:
Guideline for Excavation in the Vicinity of Utility Lines

Update

Jason Hrycyshyn, P.Eng
Utility Advisory Council
February 15, 2018
Guideline Revision: Guideline for Excavation in the Vicinity of Utility Lines

• ESA has completed our recommended revisions and does not expect there to be any issues with their adoption.

• Discussions between the TSSA, Ontario One Call and Ministry of Government and Consumer Services (MGCS) are ongoing about some issues and we are awaiting the conclusion of those discussions.

• Some of the recommended revisions
  • Harmonization with some definitions with CSA Z247.
    • CSA Z247 - Damage Prevention For The Protection Of Underground Infrastructure
  • Update of Regulation 22/04 to new Section 10
    • CSA 22.3 No.1 and No.7 to the 2015 standards
Powerline Safety
FY2019 Proposed Campaign Plan
Communications Objectives

Expand Distribution
Build off the success of last year’s campaign to engage at-risk groups to enhance powerline safety.

LDC Support
Support LDCs in raising awareness of powerline safety hazards

Engage Partners
Encourage partners to be advocates for powerline safety within their industry
Who Are We Targeting?

Occupational
• Construction industry
  • Haulage companies
  • High-reach equipment operators
  • Construction workers
• Public works departments
  • Provincial
  • Municipal

Public
• People responsible for outside repair and maintenance
• LDC customers
Haulage and equipment companies

- Haulage companies post safety materials in and around their offices
- There is no one way to reach them—some prefer email; others don’t use it
- Expressed interest in posters, infographics and stickers
- Real life examples are most effective
- Some companies are able to communicate through screens installed in vehicles; others send updates via mobile messaging
- Opportunity to provide information when drivers are near or on-site
- Many hold regular (quarterly) safety meetings
- Multiple opportunities for ESA to participate
New Audience Insights

Public works departments

- Navigating the bureaucracy to find the right people is a challenge
- Each municipality has different structures and different allocation of responsibilities
- When we are able to reach the right person, interest in materials is expressed
- Both electronic and print are acceptable
- Forestry is a key department because they clear powerlines of branches
Core Strategy: In order to reach an expanded audience, we will refresh existing materials and identify new methods of distribution.

**Distribution**

Occupational
- Expand on last year’s distribution plan to reach newly identified target audiences

Public
- Identify potential partners (in addition to LDCs) to spread safety message

**Messaging**
- Optimize messaging to ensure relevance to new target audiences

**Creative**
- Optimize creative refresh to ensure materials are relevant to new audiences
FY19 Activities Overview – Occupational

- Trade Publications
- Ethnic media

- Media Relations

- Twitter
  - Facebook

- Social

- Mobile re-targeting
  - Kijiji
  - Juice

- Paid

- Target Audience

- Direct
  - Safety Package
  - Safety Talks

- Advertising
  - VOD
  - Weather Network
  - Sportsnet
  - Porta-potty posters
• Build on existing messaging structure but help dump truck drivers and owners understand the ramifications (physical, financial and legal) of 44,000 volts with concrete examples
• Simplify and crop visuals to focus on the primary action in the ad
• Add minimal, impactful body copy to help explain the situation and answer the question, “How was this accident caused and what could I do to avoid it?”
Video Update

Simplify
• Minor edits will help to clarify and educate by telling a more easily understood story.

Optimize
• Edit video to :10 or :15 for mobile and digital viewing

Add context
• Lack of narrator limits the amount of information we can convey. Using supers can allow us to deepen the impact of the video with intense facts about powerline contacts.
Digital Banners / Social

- Simplify
  - Visuals from the video are too complex for a standard 40K banner
  - Banners need to focus messaging on a single point to capture viewer’s attention and convey message immediately

- Add context
  - Update copy to make the message more resonant:
    - It takes 2,000 volts to destroy the brain. What would 44,000 volts do?
    - 44,000 volts can end a life...and your business
Core Communications Tactics

- **Direct Mail**
  - Expand mailing list to include additional haulage and high-reach equipment companies, and public works departments
  - Email companies that ordered materials last year
  - Email public works departments

- **Stakeholder Relations**
  - Mail and email municipal and provincial public works departments offering safety talks / presentations
  - Work with IHSA to develop safety talk calendar

- **Porta-potty Advertising**
  - Expand advertising area beyond Kawartha and Durham Regions

- **Trade Media**
  - Place story on ESA’s powerline safety campaign in relevant trade media
  - Ensure call to action includes a way to order safety materials
  - Identify one or two ethnic media to partner with and place an ad/advertorial in the media’s language
Digital Strategy

Before work

Daypart strategy
Takeover for PL Awareness Week

In search of work

The Weather Network

Construction jobs list

At work

Geo-fence construction zones
Mobile retargeting strategy

After work

Sports passion targeting
Television Strategy - Broadcast

- Continue the successful partnership with Sportsnet Ontario – sports continues to be the best way to reach both Occupational and the Consumer targets
  - Campaign timing aligns with high profile live sports events with increased audiences: NHL Playoffs, MLB Regular Season, CHL Memorial Cup

- Continue to include CP24 to extend broadcast reach. CP24 indexes strongly against both targets, while the news/entertainment genre also aligns well with their interests.
Television Strategy – Video On Demand

• Instead of conventional stations from last year (CITY, Global Ontario), add VOD (Video-On-Demand) through Bell Media to the media buy

<table>
<thead>
<tr>
<th>Station</th>
<th>Index % M 18-49</th>
<th>Program Examples</th>
</tr>
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<tbody>
<tr>
<td>CTV Ontario</td>
<td>144</td>
<td>The Flash, Lucifer, Big Bang Theory, Young Sheldon, South Park, Shark Tank, Friday/Saturday Movies</td>
</tr>
<tr>
<td>Space</td>
<td>274</td>
<td>Killjoys, Star Trek Discovery, Shannara Chronicles, Z Nation, Doctor Who, Cash Cab</td>
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<tr>
<td>Comedy</td>
<td>309</td>
<td>The Goldbergs, South Park, Jim Jeffries Show, Fresh Off...Boat, Just For Laughs, Corner Gas,</td>
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<tr>
<td>Bravo</td>
<td>161</td>
<td>Suits, Lucifer, Criminal Minds, CSI, Law &amp; Order, Chance</td>
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<tr>
<td>Much</td>
<td>396</td>
<td>Tosh.0, Workaholics, South Park, American Dad, Family Guy, The Simpsons, TMZ</td>
</tr>
<tr>
<td>MTV</td>
<td>296</td>
<td>Canada's Worst Driver, The Challenge, Friends, Ridiculousness, Siesta Key, Teen Wolf, TMZ Live</td>
</tr>
</tbody>
</table>

• 67% of both targets say that they have streamed video in the past 30 days, and spend at least 5+ hours per week watching
FY19 Activities Overview – Public

Media Relations
- Weather Network
- Local media

Social
- Twitter
- Facebook

LDC Materials
- Updated creative
- Release template
- Social template

Paid
- Kijiji

Advertising
- VOD
- Sportsnet

Target Audience
• Contextualize and simplify
• Help Ontarians understand the actual damage 8,000 volts can do with concrete examples
• Simplify and focus/crop visuals to more easily convey safety message and articulate the scenario being presented
• Add minimal, impactful prevention-oriented body copy to help answer the question, “How was this accident caused and what could I do to avoid it?”
Video

- Remains the cornerstone pieces of this campaign, with FY18 rotation on TV and in digital
- Based on the media plan, we will edit a :15 spot for VOD TV.
- Recommend minor edits to the existing videos to clarify our message and educate viewers:
  - SUPER: You don’t have to make contact with a power line for it to kill you.
  - SUPER: Electricity can arc from one object to another.
  - SUPER: Be aware of powerlines when working around your home.
**Core Communications Tactics**

- **LDC Support**
  - Update creative materials as needed
  - Create new social posts
  - Update media relations templates
  - Host webinar on new materials

- **Earned media**
  - Target regional and local media across the province with safety messages regarding spring cleaning—cleaning eavestroughs, repairing homes
  - Partner with Weather Network and CP24 for Powerline Safety Week spot

- **Social / Paid**
  - Update creative materials to optimize for social posts and paid promotions
  - Paid promotion to begin one week prior to Powerline Safety Week
  - Target homeowners and outdoor workers

- **Stakeholder Relations**
  - Identify potential partners to share powerline safety messages
Additional Communication Tactics

• Stakeholder Relations
  • Work with IHSA deliver talks and materials to outdoor workers (landscaping, home maintenance, painters, etc.)
  • Potential for additional materials focused on outdoor workers
# Timeline for F2019 Powerline Activities

<table>
<thead>
<tr>
<th>Activity</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Share plans with LDCs</td>
<td>March 2018</td>
</tr>
<tr>
<td>Digital</td>
<td>April 16 – May 20</td>
</tr>
<tr>
<td>Television</td>
<td>April 16 – May 20</td>
</tr>
<tr>
<td>Media Relations</td>
<td>April 16 – May 20</td>
</tr>
<tr>
<td>Powerline Safety Week</td>
<td>May 14 - 20</td>
</tr>
</tbody>
</table>
LDC Scorecard
Timelines
Information

Jason Hrycyshyn, P.Eng
Utility Advisory Council
February 15, 2018
April 30 - Annual “due date” for the Safety Metric.

- Two (2) months prior to the “due date”, ESA will provide Component B and Component C softcopy data to the LDC.

- ESA’s recorded “Scorecard Contact” will be used by ESA to send the data, and where none has been provided ESA will use the “Main Utility Contact”. Please contact ESA via email to change or verify the contacts, at Utility.Regulations@electricalsafety.on.ca.
LDC Scorecard Timelines

• Up to one (1) month prior to the “due date”, ESA will accept feedback from the LDCs, regarding the data provided.

• All feedback shall be sent to Utility.Regulations@electricalsafety.on.ca.

• All feedback will be responded to by ESA, such that LDCs can provide the required RRR input to meet the Reporting Schedule “due date”.
## 2016 Public Safety Scorecard - Data

### Component B: Level of Compliance with Ontario Regulation 22/04

<table>
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<th>Year</th>
<th>Compliance</th>
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<td>Compliant</td>
</tr>
<tr>
<td>2015</td>
<td>Compliant</td>
</tr>
<tr>
<td>2014</td>
<td>Compliant</td>
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<td>2013</td>
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<tr>
<td>2012</td>
<td>Compliant</td>
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<td>2011</td>
<td>Compliant</td>
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### Component C: Serious Electrical Incident Index

<table>
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<tr>
<th>Rate Category</th>
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</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Incidents</th>
<th>km of Line</th>
<th>Rate per 10, 100, 1000 km of line (Rate Category)</th>
<th>Number of Incidents</th>
<th>Rate per 10, 100, 1000 km of line (Rate Category)</th>
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<td>2015</td>
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<tr>
<td>2014</td>
<td>0</td>
<td>92</td>
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<td>0.000 /10 km line</td>
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</table>

The Safety Scorecard data is expected to be reported in the RRR. If modifications are deemed necessary, these modifications should be agreed upon with ESA by March 31. There should not be inconsistencies between the RRR filing data and the ESA data.
Generators and Energy Storage Working Group

Update

Jason Hrycyshyn, P.Eng
Utility Advisory Council
February 15, 2018
Proposal #3 was drafted.

- Responses were requested by December 19, 2017. Most members have not responded and ESA will re-approach the Working Group. ESA has also approached an expert from EDIST.

- Current proposal includes “General Guidance” plus “13 Typical Scenarios”.
  - 8 are proposed to be included under 22/04
  - 5 are proposed to be excluded from 22/04
Typical Scenarios Include

- Distribution Upgrade Deferrals
- Area Regulation / Momentary Differences
- Load Following
- Substation On-Site Power
- Orderly Shutdown of Equipment or Transfer to On-Site DER.
- Emergency Power
- Electrical Energy Time-Shift (buy low, sell high)
- etc…
Audit of Utility Regulation Compliance Assessment Processes

Information

Jason Hrycyshyn, P.Eng
Utility Advisory Council
February 15, 2018
Audit of Utility Regulation Compliance Assessment Processes

ESA has undertaken a review/auditing of how ESA assesses compliance with Regulation 22/04.

Goals Include
- Ensuring ESA is fair and consistent with evaluations of LDCs and between LDCs.
- Identify areas for improvement.

Scope Includes
- Compliance Assessment - All elements of how compliance is assessed, found in your annual 22/04 Assessment Letters.
- LDC Scorecard
New Engineering Practices and Section 5

Information / Feedback

Jason Hrycyshyn, P.Eng
Utility Advisory Council
February 15, 2018
New Engineering Practices and Section 5

There exist scenarios where LDCs are approving plans and/or standard designs that do not meet the requirements of the approved standards identified in Section 5 of Regulation 22/04.

Section 5 - Excerpt.

(3) Underground distribution lines that meet the requirements of **CSA Standard C22.3 No. 7-15 Underground Systems** or the requirements set out in Rules 2-100 to 2-404 of section 2 and in sections 3, 4, 10, 12, 14, 18, 26, 28, 36, 75, 80 and 84 of the ESC are **deemed to meet the safety standards set out in subsections 4 (2) and (5).**
4. (1) **All distribution systems** and the electrical installations and electrical equipment forming part of such systems shall meet the primary safety standard set out in subsection (2) by meeting the safety standards set out in subsections (3), (4), (5) and (6).
New Engineering Practices and Section 5

To remain in compliance ESA expects to be notified when an LDC is looking into a practice which doesn’t meet the requirements in Section 5.

ESA will provide guidance on this issues.

Contact Information
Utility.Regulations@electricalsafety.on.ca
In CSA C22.3 No. 7 we have the following:

**15.5 Supply grounding electrodes and connections**

**15.5.2**

Where practicable, grounding electrodes shall be installed such that they **extend below the frost level.**

In the OESC we have the following:

**36-302 Station ground electrode**

(1) Every outdoor station shall be grounded by means of a station ground electrode that shall meet the requirements of Rule 36-304 and shall

(a) consist of a minimum of four driven **ground rods**...
New Engineering Practices and Section 5

UAC Discussion

• Discuss “where practicable” and meeting the safety standards
• ESA is reviewing issuing a bulletin
• Communication methods