

# Safety Codes Summit 2023

Kevin Glubrecht, Provincial Administrator  
October 2023



Alberta

# Agenda

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1.The Electrical Team

2.Staying current

3.Master Electricians

4.STANDATA overview

5. Electrical Reporting

6. Accomplishments

7. AEUC (Gregg Marshall)

8.

# Alberta Municipal Affairs Electrical Staff

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## **Provincial Electrical Administrator -Kevin Glubrecht**

Electrical Technical Advisor  
–Gregg Marshall (Calgary)

Electrical Technical Advisor  
–Cameron Doram (Red Deer)

Electrical Technical Advisor  
–Morgan Pendray-Frame (Calgary)



Electrical / Elevating Technical Advisor  
–coming soon

# How to stay current in the Electrical Industry

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- IAEI - International Association of Electrical Inspectors <http://www.iaei.org/>
- EIAA - Electrical Inspectors Association Alberta <https://www.eiaa.ca/>
  - February Annual Technical Conference, webinars
- Solar Alberta <http://www.solaralberta.ca/>
  - Industry solar news
  - Electrical codes solar training [Online Course - Solar PV Electrical Codes - Solar Alberta](#)
    - Virtual Nov 9, 14, 16 7pm-9 pm
- ECAA - Electrical Contractors Association <http://www.ecaa.ab.ca/>
  - May 23 – 25, 2024 Annual convention
- AEA – Alberta Electrical Alliance – learning EXPO October 25, 2023
- Contact City / town inspections and permitting department – local Authority Having Jurisdiction (AHJ)  
[Where to get a Permit - Safety Codes Council](#)

# How to stay current in the Electrical Industry

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- CSA Public Review
  - <https://publicreview.csa.ca/>
- Alberta Municipal Affairs
  - [Safety codes | Alberta.ca](#)
- Safety Codes Council
  - <http://www.safetycodes.ab.ca/>

# Master Electricians

Where to check Master Electrician number on Safety Codes Council website

[Master Electrician Search Result \(safetycodes.ab.ca\)](https://safetycodes.ab.ca)

## Master Electrician Search

Master Electrician Search

Last Name:

Master Electrician No.:

Search

▼ Master Electrician Search Result

Showing 1 to 1 of 1 entries

Show 10 entries

Search:

First Name	Last Name	ME# Number	ME Status	Expiry Date
Kevin	Glubrecht	6765	Inactive	2015-04-12

Previous 1 Next

# Master Electricians

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## Master Electrician Basics

- An electrician that has taken and passed the masters test offered by the Safety Codes Council (SCC), and certified by the SCC would be classified as an Alberta Master Electrician and given a masters number.
- The Electrical Contractors Association Alberta (ECAA) is responsible for the professional designation of the Professional Electrical Contractor (PEC) and registration is STRICTLY VOLUNTARY. This allows a master electrical to use a professional designation during the valid period shown on their I.D card. This does NOT replace a masters electrician certificate.
  - <http://www.ecaa.ab.ca>

# Master Electricians

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- Part 4, Section 40 of the Professional and Occupational Associations Registration (POAR) Act exempt an individual who is a member of a registered association from needing to obtain a municipal licence to engage in their field of practice.
- From Apprenticeship and Industry training *“It is reasonable to assume the ECAA PEC members fall under Part 4, Section 40.”*
  - [Apprenticeship and industry training | Alberta.ca](#)



# Master Electricians

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- Bill 23 is before legislature and is expected to pass fall 2023. Upon coming into force, the Professional Governance Act will replace the POAR Act and the regulation that deals with the ECAA and the PEC designation.
  - Contact Ministry of Labour and Immigration to find out about the Key changes
    - [Streamlining professional governance laws | Alberta.ca](#)
    - Alberta Advanced Education [Professional governance | Alberta.ca](#)

# 2021 Electrical STANDATA

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What is the purpose of an information, bulletin  
STANDATA?

- A tool to ensure the code is being understood congruently across Alberta.

# 2021 Electrical STANDATA

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What is the difference between information bulletins, interpretations, and variances?



# Electrical 2022/2023 STANDATA

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## STANDATA update, and creation

- Interpretations
  - normative and use language like "shall". They include "interpretations" or "interpret"
- Bulletins
  - bulletins are informative, using language like "should". Appendix B is a good example
  - explains the intent of the mandatory rule
- Variances
  - normative and must be strictly followed if using the variance (alternate solution)
  - Follow the code as written OR follow the variance.

Where to find our STANDATA's:

<https://www.alberta.ca/electrical-standata.aspx>

# Electrical 2022/2023 STANDATA

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The Safety Codes Council, Electrical & Utility Sub-Council members include stakeholder sector representation that provide recommendations for STANDATA's include members from:

Professional Engineers

Electrical Safety Codes Officers

Urban Municipalities

Alberta Municipal Affairs

Rural Municipalities

Communication Utilities

Certification Bodies

Utilities

General public

Training institutions

Industry experts

# Electrical 2022/2023 STANDATA

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## Recent STANDATA 2023

- [April 2023 - 21-ECV-064-900-ESS : 2021 Canadian Electrical Code Part I Section 64](#)
  - Complete- Revision 1 [CSA MOR 4 update]
- [Permit Regulation – Legislation](#) – New February 2023, last updated 2015
  - Updated to new template
  - Minor editorial changes, fix broken links

# Electrical 2022/2023 STANDATA

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## Recent STANDATA 2023

- CE Code Part 1 2023 is anticipated to be published by CSA as early as March 2024 in French and English languages.
  - As per Safety Codes Act Administrative Items Regulation automatic code adoption – CE Code Part I could come into effect April 1, 2025, (1 year and following month after publish date).
- STANDATA CE Code Part I, 2023 required to be updated to reflect next code cycle
  - Interpretations – 8
  - Bulletins - 20
  - Variances – 9
  - Regulations – 6
  - Notices – 2
  - Main webpage update

# Electrical 2022/2023 STANDATA

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Are Electrical Incidents required to be reported?

The Safety Codes Act

**Administrative Items Regulation**

***Reporting in the electrical discipline***

*15(1) Subject to subsection (2), any person who knows of*

*(a) an accident to a person, a fatal accident to livestock or a power line contact involving an electrical installation or electrical equipment, or*

*(b) a fire of electrical origin or suspected electrical origin*

*Must, as soon as practicable, report the accident, contact or fire to an Administrator for the electrical discipline or to a safety codes officer and the safety codes officer must notify an Administrator for the electrical discipline.*



# Electrical 2022/2023 STANDATA

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Question: Is reporting an electrical incident to OHS the same as reporting to the Electrical Administrator?

Answer: No. As per the Safety Codes Act Administrative Items Regulation, the electrical incident SHALL be reported to the Electrical Administrator.

# Electrical 2022/2023 STANDATA

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## Recent STANDATA Notice 2023

- [Statistics: Electrical incidents in Alberta](#)
  - 2022 report published August 2023.
    - Incident report form - [Incident report \(alberta.ca\)](#)
    - to be completed and emailed to [safety.services@gov.ab.ca](mailto:safety.services@gov.ab.ca)

# Electrical 2022/2023 STANDATA

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Electrical Incidents in Alberta : January 1 to December 31, 2022

# Electrical 2022/2023 STANDATA

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- Non-fatal injuries
  - An electrician received a shock from a junction box when a wire nut fell off a splice.
  - An electrician was working on a junction box when they received a shock.
  - A student working in an electrical lab touched live wires receiving an electrical shock to their hand.
  - A powerline technician (PLT) was connecting an overhead service to a residence. The PLT's stripping tool contacted the hot conductor and the neutral causing an arch flash.

# Electrical 2022/2023 STANDATA

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- Non-fatal injuries – continued
  - An electrician using a jumper cable created a connection between two live phases, resulting in an arc flash and minor injuries to the worker.
  - A worker installing tile in a kitchen came in contact with the switch and received a shock.
  - A child playing by a pedestal touched the top and burnt their wrist.

# Electrical 2022/2023 STANDATA

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- Fatalities
  - A worker was fatally electrocuted while working on a motor.
  - A person was fatally electrocuted while exiting a hot tub.

# Electrical 2022/2023 STANDATA

## Summary

### Summary of reported injury incidents – 2022

Fatal (F) Non-Fatal (N)

#### 1. Persons involved

A. Performing electrical work			B. Not performing electrical work		
	F	N		F	N
Qualified electrical worker	1	9	Adult	1	5
Qualified power system electrician / power line technician	0	1	Child	0	1
Non-qualified person	0	0			

#### 2. Voltages involved

A. Systems or equipment (not power line contacts)			B. Contact with power lines (not included in A)		
	F	N		F	N
750 volts or less	1	15	750 volts or less	0	0
Over 750 volts	1	1	Over 750 volts	0	0

#### 3. Systems or equipment involved

A. Interior wiring systems			B. Utility		
	F	N		F	N
Service/distribution equipment	0	2	Overhead systems-poles/lines/etc.	0	1
Motor control equipment Switches, fixtures, etc.	1	1	Substations and transformers	0	1
Test equipment	0	0	Underground systems	0	1
General wiring/conductors	0	3	Other	0	0
Other equipment	0	1			
	0	0			
C. Utilization equipment			D. Non-electrical equipment		
	F	N		F	N
Household appliances	0	1	Cranes/booms/pickers	0	0
Commercial/industrial equipment	0	2	Ladders/scaffolds	0	0
Portable power tools	0	1	Drilling rig equipment	0	0
Extension cords	0	2	Farm equipment	0	0
Welding machines/motors	0	0	Moving buildings	0	0
Mobile homes and trailers	0	0	Objects (pipe, antennae, etc.)	0	0
Signs	0	0	Excavating equipment	0	0
	1	0	Vehicles (high loads, truck boxes, etc.)	0	0
Other			Other	0	0

# Electrical 2022/2023 STANDATA

## Summary

Reported Electrical Power Line Contacts 2022

TYPE OF CONTACT OR DAMAGE	# OF LINE CONTACTS NO INJURIES	NON-FATAL INJURIES	FATALITIES
Overhead Utility Systems			
Vehicle-mounted equipment (booms, hoists, cranes, etc.)	52		
Trucks with raised boxes and vehicles transporting high loads	118		
Excavating or earth moving vehicles	111		
Farm implements	158		
Relocating structures (grain bins)	5		
Vehicles out of control	168		
Aircraft, parachutes, kites, etc.	7		
Falling, brushing or trimming trees	78		
Drilling and seismic equipment	1		
Other contacts	86	1	
<b>Total</b>	<b>784</b>	<b>1</b>	
Underground Utility Systems			
Excavating equipment	162		
Vehicles hitting transformers, pedestals, etc.	107		
Others	18		
<b>Total</b>	<b>287</b>		



# Electrical 2022/2023 STANDATA

## Summary – power line contacts

### Yearly Statistics

Reported Electrical Power Line Contacts in Alberta – 2013 to 2021

	2014	2015	2016	2017	2018	2019	2020	2021	2022
Overhead power line contacts	646	548	584	749	784	511	735	820	784
Underground power line contacts	248	276	287	453	422	251	243	347	287
<b>Total reported contacts (no injuries or fatalities)</b>	<b>894</b>	<b>824</b>	<b>871</b>	<b>1202</b>	<b>1206</b>	<b>762</b>	<b>978</b>	<b>1167</b>	<b>1071</b>

# Electrical 2022/2023 STANDATA

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## Summary – power line contacts continued

Fatalities (overhead power line contacts)	0	0	0	2	2	0	2	1	0
Fatalities (Underground power line contacts)	0	0	0	0	0	0	0	0	0
<b>Total reported power line fatalities</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>0</b>

# Electrical 2022/2023 STANDATA

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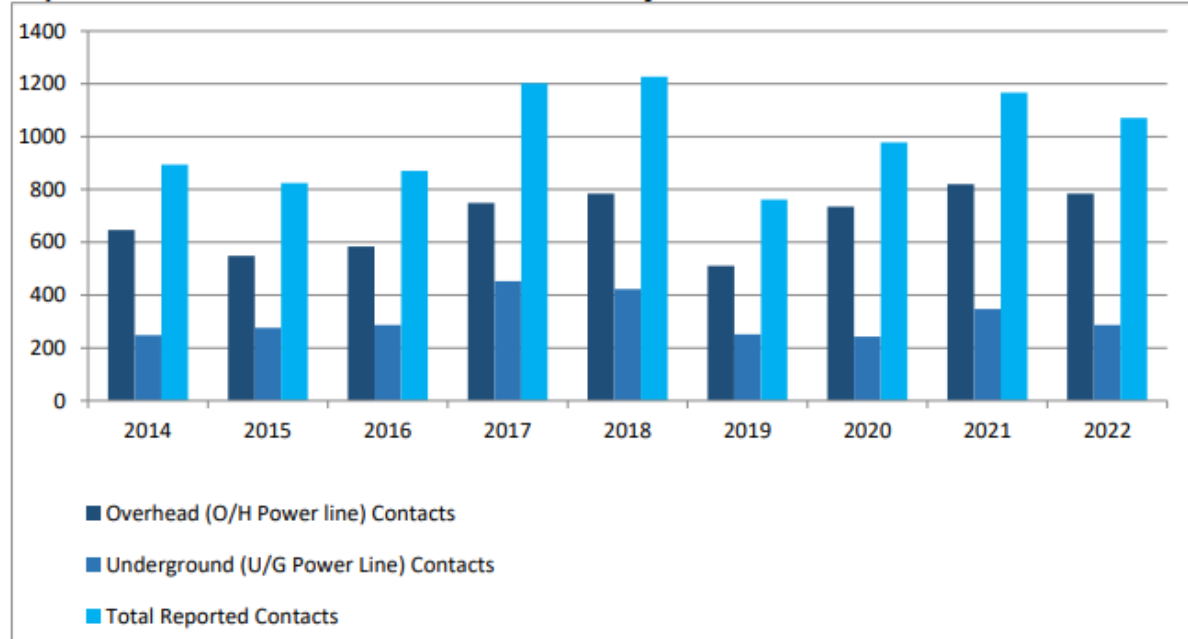
## Summary – power line contacts continued

Injuries (Overhead contacts)	5	3	1	4	3	6	5	2	1
Injuries (Underground contacts)	0	1	3	1	2	2	0	0	0
<b>Total reported non-fatal electrical injuries (persons)</b>	<b>5</b>	<b>4</b>	<b>4</b>	<b>5</b>	<b>5</b>	<b>8</b>	<b>5</b>	<b>2</b>	<b>1</b>

# Electrical 2022/2023 STANDATA

## Summary – power line contacts continued

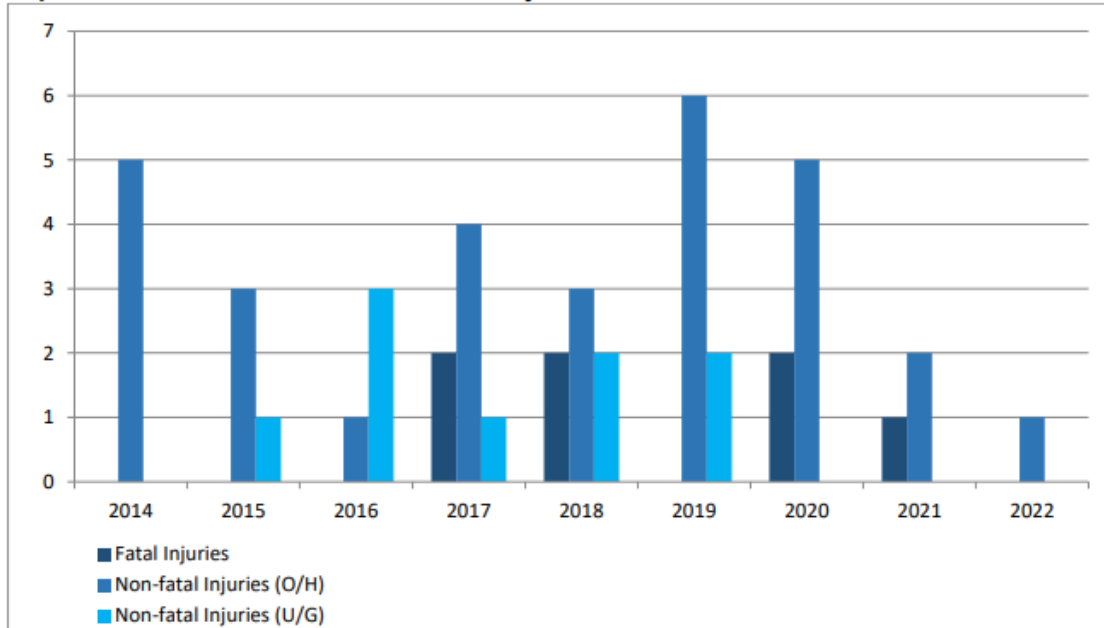
Reported Power Line Contacts in Alberta– Summary – 2014 to 2022



# Electrical 2022/2023 STANDATA

## Summary – power line contacts continued

Reported Power Line Contacts in Alberta – Injuries – 2014 to 2022



# CE Code Part I submission

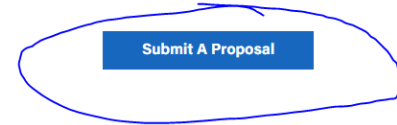
## Who can submit a proposal?

- Anyone!
- [Request for amendment: Canadian Electrical Code, Part I | CSA Group](#)



### Codes and Standards

Canadian Electrical Code, Part I (25th Edition), Safety Standard for Electrical Installations  
English, French | Published in 2021 | Published by CSA Group



### My Submissions

Your proposal drafts and final submissions will appear here once created. Updates for your proposal submission will be sent to your email as it progresses through the review process, and you can return here to see more detailed information and updates by clicking the details link in the action column of your submission.

Track ID	Submitted	Codes & Standards	Section & Rule	Status	Edition	Action
No data available in table						

# CE Code Part I submission

[CSA Store ↗](#)[Public Review ↗](#)[Contact Us ↗](#)[Kevin Glubrecht ▾](#)[English ▾](#)**1****Reasons for Request****2**

Policy Priorities

**3**

Impact Assessment

**4**

Proposal and Rationale

**5**

Review

**6**

Acknowledgement of Copyright

## Reasons for Request

Please check at least one of the reasons below to continue \*

☐ Improve safety☐ Address new technology☐ Correlate with other relevant standards such as the NEC, NBCC, CSA C22.3 No. 1, CSA Z32, CSA C282, etc.☐ Correlate with electrical product standard requirements☐ Clarify existing wording☐ Other[Save Draft](#)[Next](#)

# Electrical Safety Tips (Safety Codes Council)

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The Safety Codes Council has added Electrical Safety tips to their Safety Tips web page.

<https://www.safetycodes.ab.ca/permits-inspections/safety-tips/>





# Electrical Safety Tips (Safety Codes Council)

**Safety  
Codes  
Council**

## RETURNING TO YOUR HOME OR BUSINESS AFTER A FLOOD

**OVERVIEW**

Use extreme caution when returning to your home or business after a flood. When an electrical installation has been in water, it cannot be turned on again without the risk of shock or fire. The following information will help you assess your flood-damaged electrical installation.

**Returning Home After a Flood**

When returning to a flood-damaged area, take extra precautions to protect your health and safety:

- Stay away from power lines, pad-mounted transformer boxes, and electrical wires - electric shock is a serious threat in flooded areas. Electrical current travels through flood-water which can turn a house into a conductor of electricity. Immediately report downed power lines to your utility company or call 911.
- Do not enter a flooded building until you have been advised that it is safe to do so by local authorities.
- Do not assume that any part of a flooded electrical system is safe, even if the main switch is in the off position.
- Flooded electrical installations, including equipment & appliances, electrical wiring, and electric heating systems must be thoroughly checked by a certified electrician before reusing.
- Never cross damp floors to shut off the electrical power at the main switch.
- Remember that some appliances such as televisions can "store" energy in capacitors, which can shock you even when they are unplugged.
- Even if the electricity is off in your area, you must be sure that your own power supply is disconnected. If the switch is left in the "on" position, power could be restored to the area and to your property before the wiring is properly inspected. If you are not sure that the main switch was turned off prior to flooding, do not enter the premises without first getting it checked by a certified electrician.

**Restoring Electric Power To Your Home or Business**

- Do not attempt to turn the power back on in your home until the wiring has been inspected by the electrical inspector or a certified electrician.
- An electrical inspector can inspect the flood-damaged installation. The inspector will list the requirements needed to make the installation safe again. An electrical contractor can also conduct an initial assessment and restore the electrical installation.
- The inspection of your electric service begins at the service entrance and proceeds through the meter base, main switch, panelboards, and branch circuit breakers. This basic equipment must be safe before reconnecting the power.

**SAFETY  
TIPS**

# Electrical Safety Tips (Safety Codes Council)



**SAFETY NEAR POWER LINES**

Whether you are building structures or just accessing the roof, it's important to think about how close you might be to power lines. This is for your safety and it's also a requirement of the Alberta Electrical Utility Code and the Canadian Electrical Code which we all must follow.

If you build too close to the power lines, you may be required to have the power lines moved at your expense to maintain safe clearances.

**Ask yourself, where is the line?**

- The Occupational Health and Safety Act and Regulations must be followed by workers when working next to power lines.
- You must always stay back at least 7 meters (20 feet) from an energized line.
- Ask your utility provider to verify voltage and minimum approach distances before working any closer.
- Contact your utility provider to remove any branches or trees encroaching on electrical power lines, poles or equipment.

**Always avoid overhead power lines, especially when:**


- Using a ladder.
- Pruning or cutting trees.
- Cleaning a pool.
- Installing or moving an antenna.
- Working on the roof.
- Carrying long tools or pipes.
- Setting up and moving scaffolding.
- Moving augers, truck boxes, cultivators, air seeders, or similar large objects.

**Be safe around fallen and sagging wires**

- Always assume a downed power line to be energized.
- Stay at least 10 metres (30 feet) away from downed power lines.
- If you feel a tingling sensation, place your feet together and shuffle or hop out of the area without touching anything.
- Never touch an energized wire with your hand or any other object.
- Do not touch any metallic objects in the area (e.g. chain-link fences).
- If you notice a damaged electrical facility, call 911 or notify your electric utility: <https://wheresthehline.ca/contact-us>

**SAFETY TIPS**

# Electrical Safety Tips (Safety Codes Council)



**Safety  
Codes  
Council**

## ELECTRICAL SAFETY

Electricity is unavoidable in modern day living. But it can be dangerous if it is not dealt with properly or treated with respect. To avoid possible injury, treat electricity with respect using these safety tips.

**Practice Electrical Safety at Home**


- Always contact a certified electrician to do any electrical servicing.
- Equip all outdoor and bathroom outlets with Ground Fault Circuit Interrupters (GFCIs).
- Equip all outlets, unless exempted, with Arc Fault Circuit Interrupters (AFCIs).
- Do not overload electrical circuits.
- Never stick toys, keys, fingers or anything else into an electrical outlet.
- Do not plug or unplug electrical appliances or tools with wet hands or in wet conditions.
- Replace damaged or frayed cords.
- Do not attempt to disconnect your power meter. It could explode. It is also illegal.
- Use cords with a third prong, and always ensure the third prong remains in use.
- Report any electrical incidents, including fire, shock, powerline contacts, accidents, injuries, or defective electrical equipment & appliances:  
<https://www.alberta.ca/assets/documents/ma-safety-codes-incident-report-form.pdf>

**Contact**  
Community and Technical Support branch of Municipal Affairs:  
Hours: 8:15 am to 4:30 pm (open Monday to Friday, closed statutory holidays)  
Toll free: 1-866-421-6929  
Email: [safety.services@gov.ab.ca](mailto:safety.services@gov.ab.ca)

**Safety Codes Council:**  
Toll free: 1-888-413-0099 (within Alberta)  
Email: [scinfo@safetycodes.ab.ca](mailto:scinfo@safetycodes.ab.ca)  
Web: [safetycodes.ab.ca](http://safetycodes.ab.ca)

**Alberta Safety Codes Authority:**  
Toll free: 1-888-413-0099 (within Alberta)  
Email: [askasca@safetycodes.ab.ca](mailto:askasca@safetycodes.ab.ca)

Updated November 2021



**SAFETY TIPS**

# Electrical Safety Tips (Safety Codes Council)



## ALUMINUM WIRING IN RESIDENTIAL INSTALLATIONS

Homes constructed between the mid 1960's until the late 1970's could have aluminum wiring.

Minor fires have occurred when electrical devices such as switches and receptacles (plugs) that were designed for use with copper wiring were installed on aluminum wiring.

Because aluminum wire is softer and exhibits different electrical characteristics than copper wiring, special attention is necessary to ensure that appropriate devices are being used. As with all wiring, aluminum is safe provided proper connections and terminations are made without damaging the wire and with approved materials installed in accordance with the Canadian Electrical Code and the manufacturer instructions.

To determine whether your house is wired with aluminum wiring, look for the "AL" mark on the overall jacket of your wire in places where the wire is exposed (near the electrical panel, between joists in unfinished basement ceilings). If wiring jackets are not accessible you can remove a device from a de-energized circuit and check the wire colour (not insulation colour). If the wire colour is silver, not copper, you can conclude that your wiring is aluminum.

### Required Markings for Devices used with Aluminum Wiring

Replacement receptacles and switches must be installed in compliance with the Canadian Electrical Code and marked as per the following table:

Electrical Device	Required Marking
Receptacle (rated 20 amps or less)	"CO/ALR" or "AL-CU"
Receptacle (rated greater than 20 amps)	"AL-CU" Or "CU-AL"
Switch (rated 20 amps or less)	"CO/ALR"
Wire Connectors [intended for use with combinations of either an aluminum conductor(s), a copper conductor(s), or both]	"AL-CU" Or "CU-AL"
Luminaire (Lighting fixture or lampholder) or Electric Heater	No required marking, however approved wire nuts are required.



SAFETY TIPS

# Electrical Discipline Accomplishments

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## Miscellaneous support - Alberta

- Alberta Electrical Utility Safety Association (AEUSA)
- Product Certification Monitoring (CACES)
- Electrical Inspectors Association Alberta (EIAA)
  - annual technical conference
- Alberta Electrical Alliance (AEA)
  - electrical learning expo
- Electrical Contractors Association Alberta (ECAA)
  - annual conference
- Continue to harmonize the CE Code adoption (so all jurisdictions are on the same edition).
  - Regular monthly Provincial Uniformity meetings with Canadian regulators

# Electrical Discipline Accomplishments

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## Technical Committee Support

- CE Code Part I voting member
  - Canadian Electrical Code Part I
  - Various Part II equipment standards participation
- Alberta Electrical Utility Code
- CE Code Part III
  - CSA TC on Overhead Systems C22.3 No 1
  - CSA TC on Underground Systems – C22.3 No 7

# Electrical Discipline Accomplishments

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## Technical Committee Support

- Safety Codes Council
  - Electrical Sub Council (ESC)
  - Electrical Utility Sub Council (EUSC)
  - Course review
    - Masters update course
    - SCO code update course

# Electrical Discipline Accomplishments

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## Technical Committee Support

- Standards Council of Canada
  - Canadian Advisory Council for Electrical Safety (CACES)
    - Electrical product safety, certification
    - Canadian product safety pledge
      - [Canadian product safety pledge for consumer products and cosmetics - Canada.ca](#)



# Health Canada Product Safety Pledge

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## Health Canada

- Health Canada is the federal department responsible for helping the people of Canada maintain and improve their health. Health Canada is committed to improving the lives of all of Canada's people and to making this country's population among the healthiest in the world as measured by longevity, lifestyle and effective use of the public health care system.

# Health Canada Product Safety Pledge

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The pledge was created by Standards Council Canada (SCC) due to the global e-commerce landscape seeing a rapidly growing number of Canadians using online marketplaces for purchasing goods which offer consumers a range of benefits including convenience, greater product variety and choice of sell.

Health Canada recognizes that the increasing popularity of online shopping by Canadians may bring with it an increase in the availability of unsafe products and risks to users that these product may pose.

# Health Canada Product Safety Pledge

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At this time the pledge is voluntary with the goal to achieve the following;

- Detecting and preventing the sale of Unsafe Products
- Promote sellers awareness of access to Canadian product safety websites that publish listings of recalled, prohibited or non-complaint products.
- Raising product safety awareness amongst sellers
- Empowering consumers on product safety issues

# Health Canada Product Safety Pledge

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- For more information - [pledge-guide.pdf \(canada.ca\)](#)
- For reporting - [Consumer products and cosmetics - Canada.ca](#)



**Alberta Municipal Affairs**  
**Community and Technical Support**  
**1-866-421-6929**  
**e-mail [safety.services@gov.ab.ca](mailto:safety.services@gov.ab.ca)**

# Alberta Electrical Utility Code

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## Municipal Affairs

Gregg Marshall, Electrical Technical Advisor  
October 2023



# Alberta Electrical Utility Code 6<sup>th</sup> edition 2022

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- The Safety Codes Council, Electrical published the Alberta Electrical Utility Code 6<sup>th</sup> edition (AEUC) in August 2022.
- Unless a Ministerial Order is issued to delay code adoption, the AEUC will come into effect on the 1<sup>st</sup> of the month one year after publish date.
- September 1, 2023

# Alberta Electrical Utility Code 6<sup>th</sup> edition 2022

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- The utility code is sometimes referred to as CE Code Part III
- The Alberta utility code consists of the AEUC and.....
- In order for the AEUC to be comprehensive and complete, users must have access to two CSA standards.
  - CSA C22.3 No 1 – Overhead Systems
  - CSA C22.3 No 7 – Underground Systems



# Alberta Electrical Utility Code 6<sup>th</sup> edition 2022

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- The AEUC is available for free at the Safety Codes Council or Alberta Kings Printer.
  - [Code Books & Guides - Safety Codes Council](#)
  - [Alberta King's Printer: Laws Online Results](#)
- The overhead & underground standards are available for purchase at CSA
  - [CSA C22.3 NO. 7:20 | Product | CSA Group](#)
  - [CSA C22.3 NO. 1:20 Standard and Redline | Product | CSA Group](#)

# Changes in the AEUC 6<sup>th</sup> edition 2022

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- Submissions to the AEUC, can be sent to the Electrical Utility Sub-Council AEUC working group.
  - Email; General Inquiries:  
[sccinfo@safetycodes.ab.ca](mailto:sccinfo@safetycodes.ab.ca)

# Changes in the AEUC 6<sup>th</sup> edition 2022

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- It is suggested similar steps be taken to that of CSA Part I when submitting a proposal to the AEUC
  - Reason for Request
    - Address new technology, improve safety, correlate with other relevant standards, clarify wording, other
  - Policy priorities
    - Affordability, maintenance, safety, other

# Changes in the AEUC 6<sup>th</sup> edition 2022

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- Impact assessment
  - Enforcement, costs, codes / standards, benefits
- Proposal and rationale
  - Proposal request includes code rule indicated / text to be added or deleted
  - Proposal rationale includes supporting information

# Changes in the AEUC 6<sup>th</sup> edition 2022

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- Group B (Utility) Electrical Safety Codes Officer regulates the AEUC requirements and includes inspecting up to the demarcation location.
- [STANDATA: Alberta Electrical Utility Code](#)
- Minor Definition changes to STANDATA
  - **operator of a utility system or operator of the utility system** – the owner of the electrical utility system, and may include **an organization, office, or individual a person**, designated by the owner to make policy decisions affecting the utility.
- The demarcation location is the location where one code ends and another begins.

# Changes in the AEUC 6<sup>th</sup> edition 2022

Page 1 of 3

## 2016 ALBERTA ELECTRICAL UTILITY CODE

**SUBJECT: Section 2 – General Rules**

### **Rule 2-024 Consumer's Service Connection**

#### **Purpose:**

Industry has requested clarification regarding the demarcation point between Consumer installations and Utility/Supply Authority installations.

#### **Code references:**

#### **Alberta Electrical Utility Code**

##### **2-024 Consumer's Service Connection**

The operator of a utility system shall not connect, or allow to be connected, an electrical consumer's service to the electric utility system unless:

- (a) the attachment point for conductors used on overhead systems to supply the consumer's service is located so that the conductors maintain required clearances;
- (b) the metering equipment and location are acceptable;
- (c) the electric utility has assurance from the owner or the owner's agent that the installation is ready for connection and no obvious hazards should result;
- (d) the electric utility has received a copy of a valid permit or authorization issued by the authority having jurisdiction; and
- (e) for existing service re-connections, and at the discretion of the electric utility, a re-inspection of the consumer's service is performed.

#### **Canadian Electrical Code, Part I**

##### **Section 0 — Object, scope, and definitions**

**Service, consumer's** — all that portion of the consumer's installation from the service box or its equivalent up to and including the point at which the supply authority makes connection.

# Changes in the AEUC 6<sup>th</sup> edition 2022

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## **Discussion:**

There are differences in how the demarcation is determined in various jurisdictions, as well as differences between commercial and residential, underground and overhead, etc. It is important to prevent any gaps in oversight between the Utility SCO and the Consumer SCO.

Examples in the Canadian Electrical Code Handbook do not cover all situations and have led to confusion.

Also, the demarcation point has to meet the requirements of both the Canadian Electrical Code, Part I and the Alberta Electrical Utility Code, e.g. if the property line is deemed to be the demarcation point, then a splice/connection must exist at the property line.

## **Interpretation:**

The purpose of the STANDATA is to provide guidance in situations where the demarcation point is not already identified.

The location of the demarcation point can be unique for each customer as determined by the supply authority; however, for the purposes of determining demarcation between the Canadian Electrical Code, Part I and the Alberta Electrical Utility Code, the **typical** point of demarcation:

- for an overhead service is the connection point at the service head;
- for a residential underground service is the line side terminal of the customer's meter base;
- for a commercial underground service is the secondary terminals of the transformer; and in the event that the commercial service cabling system is extended from the transformer to pedestals or underground enclosures, then the demarcation point is the terminals in the pedestals or the underground enclosures.

The demarcation point should be identified in all cases.

This INTERPRETATION is applicable throughout the province of Alberta.

# Changes in the AEUC 6<sup>th</sup> edition 2022

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- Since 2012 the AEUC has been working to; remove worker safety requirements to appropriate ministries to promote labor mobility, and reduce barriers to trade.
- The AEUC regulates electrical equipment safety. OHS regulates worker safety. As a courtesy previous editions of AEUC referenced worker safety as a stop gap until updated OHS code came into effect.
  - New OHS code came out March 31, 2023



# Changes in the AEUC 6<sup>th</sup> edition 2022

## Change highlights: Overhead power lines and electrical utility workers – Parts 17 and 40 in the OHS Code

### OHS information for work site parties

This bulletin introduces changes in Parts 17 and 40 of the [Occupational Health and Safety \(OHS\) Code](#).

#### IMPORTANT

This is an overview of updates effective March 31, 2023. Consult the law directly to make sure you comply with all applicable requirements.

#### KEY INFORMATION

- Part 17 addresses safe work procedures to prevent contact with overhead power lines. Part 40 contains provisions related to safety of electrical utility workers.
- The term “safe limit of approach distance” refers to a safe working distance from overhead power lines to prevent power line contacts.
- Requirements in Parts 17 and 40 have not changed. However, the provisions have been revised to clarify work site party responsibilities and be easier to understand.

For clarity, Part 17 now omits the word “energized” when describing overhead power lines and related legislative requirements that apply to them. All overhead power lines must be assumed to be energized, in accordance with the utility industry’s standards.

#### Updated standard reference

The reference to the Alberta Electrical and Communication Utility Code has been replaced. The new reference to CAN/ULC-S801-14, *Standard on Electric Utility Workplace Electrical Safety for Generation, Transmission, and Distribution* is referenced to align with the standard the electrical utility industry already follows.

#### Safe limit of approach distances exemption

The exemption to the provisions of Section 225 in Part 17 (relating to safe limit of approach distances) has been reworded to clarify that it applies to any utility worker who is working in accordance with the CAN/ULC-S801-14 standard (see above).

## Changes to Parts 17 and 40

### Notification of work near overhead power lines

The requirement for employers to notify an overhead power line’s owner before work is done or equipment is operated near it remains unchanged. However, revised wording now clarifies that employers must notify the applicable “electric utility, rural electrification association, or industrial power producer.” Previous wording did not reflect the fact that not all power lines are owned by electrical utilities.

The definition of “rural electrification association” has been updated to clarify that it applies to Part 17 as well as Part 40.

Revised wording specifies that in addition to the employer, workers are also responsible for maintaining safe limit of approach distances listed in Schedule 4 of the OHS Code when working near an overhead power line. This change was made in alignment with the OHS Act’s stipulation that workers must take reasonable care to protect their health and safety.

# Changes in the AEUC 6<sup>th</sup> edition 2022

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- Limits of approach for Utility Tree Trimmers (UTT) and references to worker safety are no longer in the AEUC.
- For worker safety requirements - [OHS Resource Portal. Change highlights: Overhead power lines and electrical utility workers – Parts 17 and 40 in the OHS Code \(alberta.ca\)](#)
  - OHS Contact Centre Anywhere in Alberta • 1-866-415-8690
  - Edmonton and surrounding area • 780-415-8690
  - Deaf or hard of hearing (TTY) • 1-800-232-7215
  - (Alberta) • 780-427-9999 (Edmonton)

# Changes in the AEUC 6<sup>th</sup> edition 2022

Code Rule & Page No

Original

Comments (who)

Code Rule & Page No	Original	Comments (who)
Section 0 – Object Page 8.	Enhancing safety for electrical utility installations by minimizing the potential risk of shock and fire hazards have been guiding principles in its preparation.	(CC) Enhancing <del>public</del> safety <del>for electrical utility installations</del> by minimizing the potential risk of shock and fire hazards <del>and establishing safety rules for activities near electrical utility systems</del> have been guiding principles in its preparation.
Scope, page 8.	Communication systems under the scope of this Code include communication systems owned by <b>electric utilities</b> for the sole purpose of the operation of the electric utility system.	Communication <del>lines, circuits, and systems</del> under the scope of this Code include <b>communication systems</b> owned by <b>electric utilities</b> for the sole purpose of the operation of the electrical utility system.
Scope, page 8.	Communication utilities fall under federal jurisdiction and are excluded from the scope of this Code. Notwithstanding this exclusion, the clearances identified in this Code shall apply to <b>communication systems</b> owned or maintained by <b>communication utilities</b> .	<b>Communication utilities</b> <del>which</del> fall under federal jurisdiction <del>and</del> are excluded from the scope of this Code. Notwithstanding this exclusion, the clearances identified in this Code shall apply to <b>communication systems</b> owned or maintained by <b>communication utilities</b> .
Definitions, page 8	For the purpose of correct interpretation, certain terms have been identified in this Code in bold text. Where such terms or their derivatives appear throughout this Code, they shall be understood to have the meanings shown below. For terms not specifically defined below, the ordinary or dictionary meaning shall be used.	(BT) For the purpose of correct interpretation, certain terms have been identified in this Code in bold text. Where such terms or their derivatives appear throughout this Code, they shall be understood to have the meanings shown below. For terms not specifically defined below, <u>the meaning shall come from the latest revision of C22.3 No. 1 or C22.3 No.7 if the term is defined</u>

# Changes in the AEUC 6<sup>th</sup> edition 2022

Code Rule & Page No	Original	Comments (who)
Definitions, page 9	New Definition: Communication System	<del>therein, and from an the ordinary or ordinary dictionary if not, meaning shall be used</del>  <b>communication system</b> – any physical apparatus, device, line, network segment, or other thing that is used or is capable of being used for electronic transmission of information over distances. The information may be in the form of voice telephone calls, data, text, images, or video. Transmission may be by wire, radio, optical cable, electromagnetic, or other similar means.
Definitions, page 9	<b>acceptable</b> – acceptable to the operator of the utility system.	<b>CC acceptable</b> – acceptable to the authority having jurisdiction (AHJ). <del>operator of the utility system.</del>
Definitions, page 9	<b>authority having jurisdiction</b> – the organization legally authorized to enforce this Code and having jurisdiction over specified territory. (See Appendix B.)	<b>CC authority having jurisdiction</b> – the organization, office, or individual legally authorized to enforce this Code, unless otherwise noted, and having jurisdiction over specified territory. (See Appendix B.)
Definitions, page 9	New Definition: Communication Utility	<b>Communication utility</b> – any corporation, company, individual or association of individuals, or its lessees, trustees or receivers, that owns, operates, manages or controls all or a part of any plant or equipment for the provision of telecommunications service, directly or indirectly to or for the public.
Definitions, page 9	New Definition: Competent	<b>competent</b> – adequately qualified, suitably trained and with sufficient experience to safely perform work without supervision or with only a minimal degree of supervision.

# Changes in the AEUC 6<sup>th</sup> edition 2022

2-014 (5) Page 12	Notwithstanding Subrules (1) through (4), Table 1 does not apply to OH&S Part 40 Utility Workers – Electrical.	(CC) Notwithstanding Subrules (1) through (4), Table 1 does not apply <u>to utility workers falling under the OH&amp;S Code</u> , Part 40 Utility Workers – Electrical.
10-002 Standards to be Used  Page 32	CSA Standard C22.3 No.1-15, <i>Overhead Systems</i> , shall be the standard for the construction and maintenance of overhead electrical utility and communication systems, with amendments to that standard as follows:	CSA Standard C22.3 No.1- <del>15</del> :20, <i>Overhead Systems</i> , shall be the standard for the construction and maintenance of overhead electrical utility and <b>communication systems</b> , with amendments to that standard as follows:

# Changes in the AEUC 6<sup>th</sup> edition 2022

<p>Appendix A – Safety Rules</p> <p>Page 53</p>	<p><b>All of Appendix A was agreed to be removed.</b></p> <p><i>Alberta's 2013 Occupational Health and Safety (OH&amp;S) Code, Part 40, Utility Workers – Electrical, refers to the Safety Rules in Section 4 of the 2002 edition of the Electrical and Communication Utility Code (ECUC). In 2007, the ECUC was renamed the Alberta Electric Utility Code (AEUC) and the Safety Rules were moved to Appendix A.</i></p> <p><i><del>For ease of reference only, this edition of the AEUC retains the Safety Rules in Appendix A, but readers should be aware that, although the Electrical Sub-Council believes the wording is unchanged, the official reference is to the wording in the 2002 edition. Future editions of the OH&amp;S Code may not refer to these safety rules.</del></i></p>	<p><i>Alberta's 2013 Occupational Health and Safety (OH&amp;S) Code, Part 40, Utility Workers – Electrical, refers to the Safety Rules in Section 4 of the 2002 edition of the Electrical and Communication Utility Code (ECUC). In 2007, the ECUC was renamed the Alberta Electric Utility Code (AEUC) and the Safety Rules were moved to Appendix A. <u>These rules were carried in Appendix A for subsequent revisions, however the 2002 rules morphed over the years and no longer reflected the exact reference in the OH&amp;S Code. To eliminate ambiguity and potential conflict, and until the OH&amp;S Code is updated, readers should refer to the 2002 revision of the Electrical and Communication Utility Code (ECUC) for safety rules.</u></i></p>
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# Changes in the AEUC 6<sup>th</sup> edition 2022

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Appendix C	APPENDIX C - Notes on Rules found in C22.3 No. 1:15, Overhead Systems	APPENDIX C - Notes on Rules found in C22.3 No. 1: <del>15</del> <u>20</u> , Overhead Systems
Page 86	<i>Note: Reference numbers found in this Appendix correlate to the Rule numbers found in C22.3 No. 1:15.</i>	<i>Note: Reference numbers found in this Appendix correlate to the Rule numbers found in C22.3 No. 1: <del>15</del> <u>20</u>.</i>
5.3.1.1 Basic Clearances	The AEUC Working Group agreed that the descriptions in the AEUC Table 5 (CSA C22.3 No.1 Table 2) under the column "Location of Wires or Conductors" were vague and interpretation was difficult and required clarification.	(CC) The <u>Electrical Utilities Sub-Council (EUSC)</u> <del>AEUC Working Group</del> agreed that the descriptions in the AEUC Table 5 (CSA C22.3 No.1 Table 2) under the column "Location of Wires or Conductors" were vague and interpretation was difficult and required clarification.
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**Alberta Municipal Affairs**  
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# Electrical 2022/2023 STANDATA

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## STANDATA VARIANCE 21-ECV-064-900-ESS/19-BCB-010(REV)1

- **Yellow** indicates a rule change, alignment or addition from the CE 2021
- ~~Strike through Red indicates~~ a change from MOR 3 – MOR 4

# Electrical 2022/2023 STANDATA

## STANDATA variance 21-ECV-064-900-ESS/19-BCB-010(REV1)

Electrical/Building

2024 Canadian Electrical Code, Part I, Section 64 Energy Storage Systems in residential buildings

Date issued: August 2023

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### Purpose

Industry has identified concerns regarding Energy Storage System (ESS) requirements. This variance permits the installation of an ESS at a dwelling unit or residential occupancy not exceeding 20 kWh for any single ESS, as an alternative method to the C22.1.21 – Canadian Electrical Code, Part I.

### Discussion

The current electrical code, C22.1.21 – Canadian Electrical Code, Part I, Rule 64-618.2) prohibits the installation of ESS's utilizing batteries below grade, including basements of dwelling units. Additionally, 64-618.4) prohibits ESS's with a storage capacity above 1 kWh from being installed in a dwelling unit or living space of a residential occupancy including clothes closets, storage rooms, bathrooms, stairways, or in any similar undesirable locations.

The next electrical code is C22.1.24 – Canadian Electrical Code, Part I, and will contain requirements for ESS installations up to 20 kWh for any single ESS installed at a dwelling unit or residential occupancy.

The upcoming code provisions in the 2024 edition are being developed by the CSA Group. Additional standards related to ESS's, include:

- Batteries for Use in Stationary and Motive Auxiliary Power Applications ANSI CANUL1973, which covers battery safety.
- Energy Storage Systems and Equipment ANSI CANUL19540, which covers overall ESS system safety.
- ANSI CANUL19545 Standard for Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage Systems, which covers fire propagation testing.
- The Standard for the Installation of Stationary Energy Storage Systems: NEMA IES6, which covers construction, operation, operation, maintenance, and commissioning of ESS's.

Unless stated otherwise, all Code references in this STANDATA are to the Canadian Electrical Code, Part I 2021

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Classification: Public

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