



**MINUTES OF THE
FIRST ELECTRICAL SUB-COUNCIL MEETING OF 2022**

DATE: February 7, 2022

TIME: 8:32 a.m. to 12:54 p.m.

LOCATION: videoconference

PRESENT: *Sub-Council Members*

Gerry Wiles, Chair
Scott Basinger, Vice Chair – North
Patrick Conway
Bert DeBruin
Hussein Desouki
Gerry Doan
Tim Driscoll
Ken Forbes
Adam Ghani
Glenn Hedderick, Vice Chair – South
Ken Hood
Nicolas Leblanc
Lori Monaghan
Barry Voogd
Ed Knaggs

Safety Codes Council

Allison Karch, Kathryn Derkach, Susan Rossmann (for item 4.6. only)

Alberta Municipal Affairs

Clarence Cormier, Bob Hall

GUESTS: Jason Drenth (EUSC Liaison), Jamie Kembel (Watts Lights)

RECORDER: Allison Karch

2022 MEETINGS: April 4 (tentative in person), June 6 (virtual), October 3 (tentative in person), December 5 (virtual)

1. Meeting Opening

The Chair called the meeting to order at 8:32 a.m. Videoconference functionality was reviewed and members were reminded that their primary duty is to act in the interest of safety in the built environment for the benefit of all Albertans.

1.1 Agenda Adoption

Ken Hood / Bert De Bruin moved that the agenda be adopted, as circulated; CARRIED

1.2 Adoption of the December 6, 2021 Minutes

Ed Knaggs / Ken Hood moved to adopt the minutes of the December 6, 2021 meeting, as circulated; CARRIED

2. Matters for Decision

3. Review Matters Arising/Action List

	Item	Action	Date Initiated	Responsible	Status/Update
1.	CE Code-072 Concrete Encasements	Consider drafting a Proposed Change to CE Code Part 1 UPDATE: Scott is working on a proposed change for the next code cycle (2024). This will be brought to the sub-council at a future meeting.	Feb. 6/17	Basinger	The proposed change has been drafted and is being confirmed by SMEs. The document will be posted for members immediately and submitted prior to the next meeting.
2.	Submission Regarding C22.1 Rule 4-004 and Table 5D	A letter will be prepared to respond to the proponent and forwarded to Council staff.	Feb. 8/21	Basinger	A letter to the proponent is being drafted explaining if the item is outside the CE Code, then engineering involvement and discussion with the AHJ is required.

4. Matters for Discussion

4.1. Decorative Soffit Lighting Presentation

Jamie Kembel of Watts Lights was introduced and the member representing the City of Calgary provided background that Mr. Kembel brought forward an issue regarding confusion in the industry about code requirements for decorative soffit lighting. A presentation was shared on screen.

The following was discussed:

- As this is a new industry, there's uncertainty about what does and doesn't need to be certified as well as whether a permit is required.
- A technical overview of the most common type of LEDs installed in soffits was given.

- The presenter has identified three main concerns: professionalism and certification; light pollution; and companies taking advantage of consumer ignorance.
- Professionalism and certification:
 - There is variation among AJHs across the province about how these installations are treated and what is required for product certification.
 - Some companies may purchase uncertified products from overseas and install them without obtaining any kind of certification.
 - It is difficult for consumers to hold companies accountable for product failures, etc.
- Light pollution: without certification or enforcement abilities, it's difficult to modulate light pollution through installation design (i.e. not pointing lights directly at other homes or the street). It was noted this is outside of ESC's purview as it is a bylaw issue, but it relates to the lack of requirements.
- Taking advantage: as this is a new type of product, consumers aren't aware of what is and isn't required. Some are told no permit is required, which leads people to believe there are no potential safety issues, but there is the potential for shorting and fires even though these are extra low-voltage products.
- Companies who proactively obtain product certification are at a financial disadvantage compared to those that don't.
- A detailed technical overview of the most common system components was provided and information was given about what type of certification the proponent obtains for various components.
- The presenter described installations he has seen that used uncertified products, which showed signs of unsafe situations such as the plastic surrounding the controller melting inside the box and charred components inside the track and box.
- Though the presenter's installations are generally simple, they hire only electricians.
- Onsite soldering and splicing, even when done by an electrician, is the weakest part of the assembly, and going toolless can streamline installation and present fewer opportunities for potential hazards.
- CSA C22.2 #37 Decorative lighting standard was noted as the applicable standard for these types of products.
- The presenter is looking for guidance about certification and permit requirements, with the ultimate goal of consistent regulation and enforcement of these installations.
- It was reported that enforcement can be difficult because businesses can appear and disappear quickly.
- AIT was contacted and gave permission to report that "plug and play" type installations don't need to be installed by electricians.
- Permits are required for these installations under the Permit Regulation, but it seems there is variation across the province regarding whether permits are obtained.
- It was reported that the City of Lethbridge has put out bulletin on this topic.
- This topic will be brought forward at the next EIAA conference. [Forbes]
- It was suggested this may be an education and enforcement issue, with many consumers not being aware of certification and permit requirements.
- The use of Special Inspections was discussed, and it was noted they could be used to approve the individual products but not the complete installation. It was suggested if it was Class 2, they could possibly approve it as complete "plug and play" system.

- It was suggested that the 2021 STANDATA 2-024 Use of Approved Equipment could be adjusted to address this issue.

Adam Ghani / Ken Hood move to create a working group to explore low and extra low voltage lighting and the approval and permitting thereof, as well as how a consumer can report issues on this topic; CARRIED

Ken Hood / Gerry Doan move that the working group members will include Adam Ghani (as chair), Ken Forbes, Ken Hood, and Gerry Doan; CARRIED

Adam Ghani / Ken Forbes move that the working group will bring forward a final report at the June 6, 2022 meeting; CARRIED

4.2. Aluminum Wiring in Residences

This item was brought forward as information in follow up to discussion at a previous meeting of insurance companies asking for more than what the code requires. Feedback from other provinces and territories was shared to provide cross-Canada context. The general theme is that insurance companies are able to require as a condition of insurance measures beyond what's stipulated in the code.

4.3. Residential Electricity Consumption

Background was given of a complaint received by AMA about an off-grid apartment building in which the solar-powered batteries ran dry and tenants were left without heat. Feedback was sought from members about whether this is an isolated incident or there's potential for it to happen in many AJHs.

In BC, there is a requirement to provide for minimum residential electricity consumption of 93kwh/day, and it's believed no other provinces have similar requirements. The building code stipulates that where electrical service is provided, it must be brought to the property. It was reported that the City of Calgary gets occasional requests from owners wanting to rely totally on solar and not be connected to electrical service, and the response given is that they can turn their meter off if relying solely on solar, but can't disconnect from the utility. It was believed this is not a widespread issue.

It is believed that this item is addressed under the building code rather than the electrical code, and this info will be taken back to duty officers at AMA so they may respond to inquiries accordingly.

4.4. 2021 CE Code Rule 64-918

It was reported that the requirements for energy storage systems in the 2021 CE Code has received pushback in other jurisdictions across Canada, and a document with information from other provinces was posted in the portal. Some provinces have already varied the installation maximums, and the Provincial Electrical Administrator is looking for input from ESC about whether consideration should be given to creating a province-wide variance on this topic.

It was reported that CSA has made revisions to this rule and the proposed changes are undergoing public review now for potential inclusion in the 2024 edition of the code, which would be in force in 2025. If it's felt to be important to implement these changes in Alberta sooner than that, a variance would be needed.

UL9540-2020 includes language about how a large battery system (ex. Tesla Powerwall) could be installed into residences. CSA is working on how such a battery system could be installed in a fire rated storage room rated to NFPA standards. UL9540 is for the battery and inverter system, and 9540A is about the fire protection of these systems.

Since the 2021 CE Code recently came into force in Alberta, it is believed this topic could present issues in the near future as industry adapts to the new code. The member representing Solar will prepare further information for discussion at a future meeting. [Knaggs]

4.5. Mast Couplers

An overview was given regarding a product installation guide for a mast coupler noting that it is not accepted for use in Alberta but being accepted in other provinces. Background information as well as feedback from other provinces was posted in the portal. Mast couplers allow for ease of installation and can be purchased at retail home improvement stores, but it is believed they don't meet the intent of Rule 10-604. It was noted the product is certified to standard #82, which doesn't have requirements for grounding and bonding and there might be additional steps required.

It was suggested that the core issue is a lack of clarity about why the product guide notes it is not acceptable for use in Alberta but is acceptable in other provinces. A letter to the manufacturer will be drafted to request the rationale for this note in the product guide, and will be copied to the Standards Council of Canada so they are aware of this inconsistency.

[Ghani / Basinger / Wiles / Forbes]

4.6. CSA Technical Committee of Photovoltaic Energy Systems

It was reported that CSA is forming a new committee for photovoltaic energy systems and is seeking membership. The member representing Solar will send the membership request to all ESC members as some may have other contacts within their organizations that may be interested. [Knaggs]

4.7. BILD Alberta Letter

A letter was posted in the portal from BILD Alberta asking for the ESC's feedback about how imminent the need for 200-amp servicing on residential lots is believed to be. It was noted that there are some homes being sold with 200 amp services because that's the size of wire installed by the developer, but the transformer is not able to accommodate it. This may also be a utility issue and it was suggested to refer it to the EUSC as well. [Council Administration]

Discussion included:

- The City of Calgary is already considering this topic because they're seeing an increased electrical demand for items such as hot tubs, electric heating for secondary suites, and laneway/garage suites.
- The EUSC liaison reported that all the new residential services he has seen over the past several years has been 200 amp.

- Building residences that are ready for electric vehicle charging are also a growing consideration.

There was general agreement that there is a need for increased residential service capacity. Council staff will work with Barry Voogd, Scott Basinger, and Gerry Wiles to draft a response to BILD recommending that minimum 200 amp services should be considered for new developments.

[Council Administration / Voogd / Basinger / Wiles]

4.8. Working Group Reports

4.8.1. Colour Coding

The following was discussed:

- A written report was posted in the portal.
- The code notes a very specific use for orange, brown, and yellow conductors (OBY) within isolated systems for patient care areas.
- OBY colour coding allows for safer installation when a panel cover is removed—the voltage of various wires is very clear.
- The group is proposing two possible recommendations: a CE Code change request or Info Bulletin STANDATA.

Adam Ghani / Gerry Doan move that the Colour Coding working group develop a code change request to Part 1 CE Code to amend Rule 4-032 to accept the practice of using OBY to identify 277/480 volts or 347/600 volts when more than 1 slash voltage is being utilized; CARRIED with one opposition (Tim Driscoll)

Adam Ghani / Ken Forbes move to suggest creation of an Information Bulletin STANDATA advising the following:

- **New installations are to use RBB exclusively even when there are multiple slash voltages being utilized within a building. The installers should adequately identify raceways, junction boxes and panel boards of the voltages that are contained within.**
- **New circuits that are RBB can enter an existing panel that contains OBY circuits.**
- **Existing circuits OBY that are being reused should continue to be OBY. An existing lighting panel can service more than one floor in a building.**
- **Always speak to the AHJ before you alter or install; CARRIED**

4.8.2. Non-Metallic Outer Jacket Cables

The group has met once to review existing documentation and will be meeting again on February 18.

4.9. Liaison Reports

4.9.2. BSC

No electrical items were brought forward.

4.9.2. EUSC

The Liaison reported:

- The EUSC held its first technical meeting on January 27.

- Discussion included areas of overlap between the CE Code Part 1 and Part 3. One item that was identified for further discussion was ground electrodes for residential services. There are many electrical utility guidelines for this as opposed to firm rules.
- The draft for the next edition of the Alberta Electrical Utility Code is nearing completion and will be reviewed at the EUSC's next meeting in April.

4.10. Administrator Report

A written report was posted in the portal and highlights included the following:

- Electrical Safety Tips published on the Council website
- An overview was given of upcoming industry meetings
- An email from CSA was shared regarding FT cable rating in plenums and it was clarified that new installations must use FT6 if going through a return air plenum rather than FT4.
 - Trade coordination is required to ascertain whether the space will be a return air plenum.
 - It was requested that the Administrator share this in his update to the EIAA.
 - It was suggested this is more of a building code issue as that is where the ratings are noted. It will be brought up at the next BSC meeting by the liaison. [Wiles]

4.11. Council Updates

A written report was included in the portal and updates were provided on the following:

- There is no confirmed date for the reopening of the Council office.
 - Staff will provide information about the possibility of an in-person meeting in April as soon as possible.
 - There is always the option for members to attend virtually if needed.
- The Council is looking for members' input on what safety system data would be beneficial to collect and analyze.
- Council Member Training—spring 2022 dates
 - New Member Orientation: April 28, 9:00 a.m. – 12:30 p.m.
 - Effective Meetings Workshop: February 16 and 17, 8:30 a.m. – 12:30 p.m. (must attend both days)
 - Appeals Training: March 8 and 9, 8:30 a.m. – 12:30 p.m. (must attend both days)
 - Contact gerry.letendre@safetycodes.ab.ca to register.
 - These will be offered in the fall as well.
- Watch past webinars, including one on variances, on the [Council website](#).
- Staff are looking to bring clarity and consistency across sub-councils' processes, including how to bring items forward to the sub-council.
 - Previously, the ESC utilized a form that proponents could use to submit potential discussion topics.
 - Staff are outlining a new process for external industry stakeholders to bring forward topics, highlighting the ability to work with the member representing that industry segment wherever possible.
 - Presentations are preferred to allow for clarification and dialogue between the proponent and the sub-council.
- A document has been created to assist with tracking action items requested of the Provincial Electrical Administrator, such as follow up correspondence, etc.

- An appeal in the electrical discipline will be happening March 21. Members who have taken the appeals training were asked to reach out to the Chair if they are able to participate.

5. Meeting Finalization

5.1. Round Table

- IEEE Electrical Safety, Technical, Maintenance and Projects Workshop 2022, March 20-23 in Edmonton at the River Cree. More information and registration at <https://cmte.ieee.org/estmp/>
- An update was given on the CSA committee for Section 18 (Hazardous Locations), including clarification that lamps in HazLoc fixtures cannot be replaced with self-contained lamps that are not part of the original certification (ex. LEDs)—it must be a like for like replacement.
- Rule 18-010 Subrule 8 is being revised to remove the word “live” in regards to doing unauthorized repairs to live HazLoc equipment.
- A change to the seals tables is in public review. It’s believed to be more useful than the previous flowchart and provide a good summary of requirements. It was noted this change will affect training materials and exams and it is good to have improved clarity from an educational point of view.
- Shielded Teck cable is being put into another standard. It is in table 19 but not in Appendix A of the code, so Part 1 users cannot use it. Insulated unshielded Teck cable will stay as is.
- The member representing education and training reported that the apprenticeship program doesn’t start teaching on the 2021 code until September 2022. The Master Electrician program is currently teaching on the 2021 code.
- Curriculum review for electricians is underway and work to rewrite materials is upcoming.
- A 2022 Safety Codes Council Conference will not occur. The Council plans to move the AGM to spring to better align with the business activities of the meeting such as presentation of the business plan and annual report. A volunteer appreciation event is being planned as well, but it’s not yet certain whether this will be held virtually or in person.

5.2. Next Meeting

The next meeting was reconfirmed for April 4, 2022, tentatively at the Council office at 9:30 a.m. (8:30 a.m. if held virtually).

5.3. Meeting Adjournment

The meeting was adjourned at 12:54 p.m.

– NEW ACTION ITEMS –

4.1. Decorative Soffit Lighting Presentation

This topic will be brought forward at the next EIAA conference.

[Forbes]

4.4. 2021 CE Code Rule 64-918

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[Knaggs]

4.5. Mast Couplers

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[Council Administration / Voogd / Basinger / Wiles]

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[Wiles]

– MOTIONS –

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– WORKING GROUP MEMBER LISTS –

WORKING GROUP	WORKING GROUP MEMBERS (Chair)
Single Family Residential Dwellings (Joint with GSC)	ESC: Barry Voogd, Bert DeBruin GSC: Roy Herrington, Mark Guderjan, Larry Miller
Colour Coding of Conductors	<u>Adam Ghani</u> Bert DeBruin, Gerry Doan, Ken Hood
Non-metallic outer jacket cables re. gap in CE Code Rule 12-500	<u>Bert de Bruin</u> Ken Hood, Gerry Doan, Adam Ghani
Low and Extra Low Voltage Lighting	<u>Adam Ghani</u> Ken Forbes, Ken Hood, Gerry Doan