



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

**DATE:** June 6, 2022

**TIME:** 9:30 a.m. to 3:15 p.m.

**LOCATION:** Safety Codes Council Office, Edmonton

**PRESENT:** **Sub-Council Members**  
Gerry Wiles, Chair  
Scott Basinger, Vice Chair – North  
Patrick Conway  
Hussein Desouki  
Gerry Doan  
Tim Driscoll  
Ken Forbes (videoconference)  
Adam Ghani, Vice Chair – South  
Glenn Hedderick  
Ken Hood (videoconference)  
Nicolas Leblanc  
Lori Monaghan  
Barry Voogd (videoconference)  
Ed Knaggs (videoconference)

**Safety Codes Council**  
Allison Karch, Kathryn Derkach, Nick Conrad  
Catrin Berghoff, Kris Schmaltz (for item 4.1)

**Alberta Municipal Affairs**  
Clarence Cormier, Bob Hall, Jon Elliott (videoconference)

**REGRETS:** Bert DeBruin, Brad Dougherty

**GUESTS:** Jason Drenth, EUSC Liaison

**RECORDER:** Kathryn Derkach

**2022 MEETINGS:** October 3, December 5

## 1. Meeting Opening

The Chair called the meeting to order at 9:32 a.m. 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 and that real or perceived conflicts of interest must be declared. A round table introduction was held.

### 1.1 Agenda Adoption

**Tim Driscoll / Adam Ghani moved that the agenda be adopted, as circulated; CARRIED**

### 1.2 Adoption of the April 4, 2022 Minutes

**Glenn Hedderick / Lori Monaghan moved to adopt the minutes of the April 4, 2022 meeting, as circulated; CARRIED**

## 2. Matters for Decision

### 2.1. Closed Session

**Glenn Hedderick / Scott Basinger moved to enter closed session; CARRIED**

**Scott Basinger / Glenn Hedderick moved to exit closed session; CARRIED**

#### 2.1.1. Reappointment of Bert DeBruin to represent Electrical Contractors

**Scott Basinger / Glenn Hedderick moved to recommend to the Board reappointment of Bert DeBruin to the Electrical Sub-Council to represent Electrical Contractors for a term ending January 31, 2025, effective immediately; CARRIED**

## 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 <b>UPDATE:</b> 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	A proposed code change that will be sent to CSA was shared with the proponent and no comments were received. Direct burial will be dealt with as a separate agenda item in the future. Scott Basinger will provide updates on the proposal's progress at CSA. In the meantime, it was suggested the existing STANDATA be updated to clarify the following: Table D11A D11B assumptions for

					installations. RHO 90, LF 100%, Earth Ambient 20C, Concrete Duct Bank. [Cormier]
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	The letter was posted in portal and will be sent shortly. Complete; remove from action list.
3.	CE Code Rule 64-918	It was reported that the requirements for energy storage systems in the 2021 CE Code has received pushback. Update: The member representing Solar gave a presentation with information for discussion. Topic will be added to a future agenda for further discussion.	Feb. 7/22	Knaggs	Addressed under item 4.4.
4.	Mast Couplers	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.	Feb. 7/22	Ghani, Basinger, Wiles, Forbes	An overview of this topic was shown and will be posted in the portal. Mast and rigid steel conduit are not interchangeable. But rigid steel can be used for overhead service with a number of caveats. A STANDATA to clarify would be beneficial as there is lots of confusion. It was suggested that Municipal Affairs and AHJs work with the manufacturer to develop requirements for kits for sale in Alberta, as this is the process for other provinces. Adam Ghani will meet with the manufacturer to discuss further. [Ghani]
5.	BILD Alberta Letter	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	Feb. 7/22	Voogd, Basinger, Wiles, Council Administration	Barry Voogd will consult BILD's electrical working group and then work with Scott and Gerry W. to draft a response. As an aside, Gerry Wiles reported he is participating on an Alberta Utilities

		considered for new developments.			Commission working group discussing a similar topic and he will bring will bring an update to next ESC meeting. [Wiles]
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#### 4. Matters for Discussion

##### 4.1. Curriculum Review

The Acting Director of Certification and Training reported that the certification policy, which contains entry qualifications, is being reviewed. Reference to Code for Electrical Installations at Oil and Gas Facilities for Electrical Group A scope or practice will be removed as this code is no longer in force (confirmed with Provincial Electrical Administrator).

The Council is working with Larry Cantelo at ECAA to provide training to SCOs about lightning protection. It was reported that the City of Edmonton just received its first permit application for a lighting protection system but doesn't employ anyone with knowledge or experience with these systems. Many SCOs may never inspect such a system, so it may not make sense to add it to curriculum. The Council could pathfind for SCOs who need the training, and there is a lightning protection institute whose training could be leveraged. It was noted that engineering is generally needed for big lighting protection systems and smaller ones may be more of an issue.

The Acting Administrator of Certification gave a presentation on the curriculum modernization initiative. It will entail a major redesign of the SCO curriculum, and the Council is engaging all construction-related sub-councils to get feedback and perspectives. Highlights included:

- A framework was developed after a competency profile was completed in 2019.
- Key priorities to modernize the SCO curriculum include training SCOs to be knowledgeable and capable with the ability to interpret codes and standards, have critical thinking skills, and the requirement to stay up to date on emerging technologies, codes and standards.
- Key SCO competencies have been identified:
  - Safety Codes – the interpretation and application, and the boundaries and interactions across codes and disciplines.
  - Safety Codes System – the Safety Codes Act, regulations, policies and QMP.
  - SCO Practice – roles and responsibilities, the permit lifecycle and investigations.
  - SCO Communication Skills – critical thinking and problem solving, ethics and professionalism, customer service, personal and site safety, relationship building, planning and organization, and continuous improvement.
- SCO Curriculum Recommendations include:
  - Expand the base competency content to address key SCO knowledge and skills
  - Shift the focus of education to code interpretation and application and away from memorization.
  - Align course with adult education best practices.
- The vision for the SCO curriculum is to evolve educational programming to meet the needs of the system.
- The Council hopes to achieve this by focusing on:
  - Aligning base competency training to be the competency profile.
  - Training SCOs to effectively interpret codes and standards to ensure code compliance while enabling innovation.

- Ensure SCOs have access to training on changing codes and emerging technologies.
- Shifting the focus from memorization of facts to critical thinking and application of knowledge to solve problems.
- Practical and applied learning.

Discussion included the following:

- A question was asked about the work plan, given this initiative will be a lot of work. The Council is currently scoping and developing a budget for this significant undertaking.
- Exams will shift from multiple choice to a method that assesses the student's ability to apply the code.
- Strategic partnerships will be important; for example, leveraging existing training on lightning protection systems. It was noted that there is nothing about lightning protection under AIT training, and it will be issue for installers too. The Acting Director will send information about lightning protection training to Glenn Hedderick and Gerry Doan through Council Administration staff. [Schmaltz/Derkach]
- Mentorship is thought to be very important. Unlike the Gas and Fire SCO training, this discipline doesn't currently have a required mentorship/practicum component, and members would like to see this in all disciplines across the board. Partnership with major municipalities may be needed for this component, because smaller municipalities and agencies generally don't have the capacity to provide for a mentorship/practicum.
- A key focus is finding the best way to assess whether an individual is qualified before they're certified.
- Training and assessment on competencies such as completing inspections well, completing plans reviews, and applying the code to complex situations would be very beneficial.
- In general, training and mentorship opportunities are more accessible to SCOs and SCO students who work for larger organizations, and thought should be given to ways to support smaller organizations in offering these opportunities.

Further updates will be provided to the sub-council as the project progresses. It was asked whether curriculum examples would be brought to the sub-councils for feedback, and the Administrator of Certification expects that advisory groups consisting of sub-council members and other subject matter experts would assist with this.

#### **4.2. Electric Vehicle Conversions**

The Provincial Electrical Administrator reported that in the gas discipline, vehicle conversions are addressed by the province under the Safety Codes Act, and it was asked whether this should be the same for electric vehicle conversions.

The Provincial Gas Administrator provided background on the history of the Motor Vehicles Gas Conversion Regulation and how this work came to be regulated under the Safety Codes Act. In the late 1970s, there were around 400 vehicle conversion shops in Alberta and legislation was developed under the Ministry of Labour. When the Safety Codes Act was created in the 1990s, this legislation was migrated under it. Currently, Municipal Affairs is the only employer of SCOs who can oversee this work and Municipal Affairs monitors shops for compliance. Alberta Department of Transportation and Transport Canada have historically invited Municipal Affairs to participate in checkstops to check for proper labeling of converted gas vehicles.

It was noted that this topic has been brought to the ESC for initial discussion to help determine whether the Safety Codes Act is the appropriate place for regulation of vehicles converted to use electrical power. If it's determined that this is not the appropriate place, Municipal Affairs will correspond with the Department of Transportation.

Discussion was held and highlights included the following:

- Converting to electric is very different than converting from gasoline to gases such as propane or natural gas, because electric vehicles do not use combustion to power the vehicle.
- There are companies currently active in Alberta that convert vehicles to electric power.
- The main hazard in electrical vehicles are the batteries. Ion batteries are very flammable and this is a safety issue especially when parking indoors.
- CSA is looking at IEC 61851-21-2 Electric vehicle requirements for conductive connection to an AC/DC supply.
- The existing Motor Vehicles Gas Conversion Regulation under the Safety Codes Act doesn't apply to electrical vehicle conversions as much of it speaks to the shops that do gas conversions and refers to gasfitters, but there may be an opportunity to change the regulation to include electric conversions.
- Some members felt that this work should not fall under the Safety Codes Act, while others felt more investigation is warranted, such as gathering information about electrical vehicle conversion shops' operations.

#### **4.3. STANDATA Variance 21-ECV-002-024-LFT**

Engineering standards (not certification standards) relating to this STANDATA have change and ESC was asked whether this STANDATA should be retired. AMA received communications from ULC indicating that the STANDATA is not accurate because ULC is certifying some transformers.

It was suggested that the wording in the STANDATA be adjusted so that it doesn't contradict with what ULC is doing. A revised version will be brought back to ESC for review. [Cormier]

#### **4.4. CanREA submission regarding CSA public review 64-900**

The member representing the Solar industry segment shared a presentation about issues regarding energy storage systems in the 2021 CE Code. A key reason for these issues is that technology changed significantly while the code was being written. These issues have been addressed through changes that have gone out for public review. Larger systems are not an issue because they involve engineering guidance; most issues are with smaller residential installations. It was suggested a STANDATA be considered to allow for some of the changes to be used in Alberta prior to these changes being incorporated in the 2024 code. It was noted that the changes reviewed in the presentation are what was put out for public review and they have not yet been ratified by CSA. A bulletin recently released in Ontario seems to show alignment with the proposed changes regarding energy storage in residences. In BC, a variance request must be submitted and reviewed on a case-by-case basis.

These code revisions align more with what is done in the US, which is a larger market for solar, and industry is generally happy with these revisions. It was suggested that the building discipline might benefit from being made aware of this because many of these changes speak to building code requirements and there may be some overlap.

**Ed Knaggs / Tim Driscoll move to create a working group to develop a proposed variance STANDATA that would allow an alternative to CE Code rules regarding energy storage systems based on changes identified in CSA Public Review; CARRIED**

**Scott Basinger/ Patrick Conway moved that the working group membership include Gerry Doan, Nicolas Leblanc, and Ed Knaggs, with Ed Knaggs as chair and support from Bob Hall at AMA; CARRIED**

**Ed Knaggs / Scott Basinger moved that the final report be delivered at the next meeting; CARRIED**

#### **4.5. BILD Alberta Letter Follow Up**

Discussion was held about the response to be sent to BILD Alberta regarding their request for input on the need for 200 amp services. The rationale for larger services is that service loads are increasing because of the following:

- Electric vehicles are increasing in popularity
- Electric heating is becoming more common
- An increased number of secondary suites
- The potential to phase out gas appliances

As BILD Alberta's question was not directly related to safety, it was questioned whether it's within ESC's scope to provide a response and suggested that there may be other organizations that are better able to provide insight. After discussion, it was determined that the letter should indicate that, despite what was noted in the February minutes, it was recognised this questions is out of scope.

#### **4.6. Working Group Reports**

##### **4.6.1. Low Voltage Lighting**

A report was posted in the portal and the following was discussed:

- AIT provided an opinion that if the lighting system does not tie directly into the house's electrical system, a qualified electrician is not required to do the work.
- These lighting systems are generally considered to be permanent.
- The group identified possible recommendations for a STANDATA, which are outlined in their written report.
- Discussion was held about the possibility that splicing may be done within the tracks by some companies.
- Certification of equipment was a key focus of discussion.
- It was reported that Intertek is doing special inspections on the type of systems that plugs into the socket. Permits are not being required for these because they're an approved system. It's not known what standard Intertek is using but they are approving the installation as a whole, even though it's believed it should only be equipment approval through an SPE1000. This is believed to be scope creep/overlap.
- Industry is not clear on whether they need a permit for the installation or not.
- Clarification should be made regarding decorative lighting versus required lighting under the building code, but the Permit Regulation doesn't address decorative versus required.
- It was suggested that the wording in the Permit Regulation may need to be reviewed. It can be a difficult and lengthy process to change a regulation, but sub-council

support would go a long way to supporting a change if it can be demonstrated that it is needed.

- An Information STANDATA may be useful to guide industry, but companies may not see it as electricians are not always installing these systems.
- The certification can only govern the product and the instructions.

**Adam Ghani / Gerry Doan moved to amend the Section 2 STANDATA to indicate that decorative lighting systems need to be certified and permitted when permanently installed to a structure; CARRIED**

#### **4.6.2. Colour Coding**

A report was posted in the portal and the following was discussed:

- The code change submission to CSA, including rationale and supporting information, was viewed on screen and discussed.
- A change was made to 3)(d) to indicate that OGY shall be permitted where more than one voltage exists within a facility.
- Typos were noted to be corrected.

**Adam Ghani / Gerry Doan move to make the noted changes and submit the colour coding code change proposal to CSA by the Electrical Sub-Council; CARRIED**

**Adam Ghani / Patrick Conway move that Adam Ghani or his delegate be the CSA duration member for the colour coding proposal; CARRIED**

#### **4.6.3. Non-Metallic Outer Jacket Cables**

A report was posted in the portal and reviewed.

**Scott Basinger / Glenn Hedderick moved that the working group develop a code change proposal to Rule 12-500 to indicate that Rules 12-502 to 12-526 apply only to non-metallic-sheathed cable Types NMD90, NMWU, and Fire Alarm and Signal cable such as (FAS, FAS90, FAS105, and FAS200); DEFEATED**

The working group was directed to review recommendation #4 in their report to clarify whether this is a proposed change to the note or to the rule, and to revise to remove references to “such as”.

The working group was directed to provide more detail about recommendation #1 in their report regarding what was found in the handbook and manufacturers’ instructions.

Feedback was given to the working group that recommendation #2 in their report will likely soon be an issue. It was suggested that this should be in the working group’s scope and should be investigated.

Regarding recommendation #3 in the working group’s report, it was noted that there are installation rules in Section 64 that the working group should review.



## 4.7. Liaison Reports

### 4.7.1. Building Sub-Council

#### 4.7.1.1. Wire and Cables in Plenum Space

A written response from the Building Administrator was provided and posted in the portal. It was asked whether electrical non-metallic tubing (ENT) that's tested under FT4 could be installed in the plenum and then FT1 conduit run through the ENT, since the conduit is no longer in the plenum but inside the ENT. This was generally considered acceptable as long as there are no junction boxes.

### 4.7.2. Electrical Utilities Sub-Council

The EUSC liaison reported that the last meeting was a working meeting to review the draft AEUC.

## 4.8. Administrator/AMA Report

The Administrator provided a written report and highlights included:

- Upcoming electrical discipline meetings
- Three STANDATA are in progress:
  - STANDATA 21-ECB-002 Section 2 – General Rules (replacement breakers);
  - STANDATA 21-ECB-004 Section 4 – Conductors (Identification of insulated conductors);
  - STANDATA 21-ECB-010 Section 10 – Grounding and Bonding (Bonding of Fuel Tank Systems);
- A possible STANDATA about GFCIs under flood planes was not pursued.

## 4.9. Council Updates

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

- The Council office has reopened.
  - Staff may continue to work from home on some days.
  - All meetings that have been identified as tentatively in-person remain so.
- It was clarified that the term 'hybrid meetings' doesn't mean that individual meetings are a hybrid of in-person and virtual, but that the Council's overall approach is a hybrid of some meetings held in person and some held virtually. All members are asked to make an effort to attend in-person meetings in person, but there will be the option to attend virtually if they're not able to attend because of illness, etc.
- Council AGM and volunteer appreciation event is being planned for the fall.
  - There will not be a spring Council Conference in Banff.
- Council Member Training
  - Save the date for courses offered in the fall:
    - Appeals Training: November 15 & 16, 2022.
    - Effective Meetings: October 31 & November 1, 2022.
  - Contact [gerry.letendre@safetycodes.ab.ca](mailto:gerry.letendre@safetycodes.ab.ca) to register.
- Awards nominations are being accepted.
  - Dr. Sauer Award—each year, this award is presented to an outstanding member, either current or retired for less than 1 year. Nomination forms can be found on the Member Portal home page document library.
  - Sub-Council MVPs—one from each sub-council. An email will be sent over the summer with instructions.

- Expense claim forms and the EFT form can be found on the Member Portal home page in the Administrative Documents folder.

## **5. Meeting Finalization**

### **5.1. Round Table**

- There was an appeal in the electrical discipline in May and all members were reminded to take the appeal training course at their earliest convenience.
- It was reported that safety instrumented design will be moved out of Appendix A because it's a design standard, and there are other standards that also don't have an appropriate home. This highlighted a hole in the process whereby things are sometimes put into Appendix A that shouldn't be there, and the process to remove them from Appendix A is not clear. It also highlights that there's no appropriate home for system standards in Part 1.

### **5.2. Next Meeting**

The next meeting was reconfirmed for October 7, 2022, tentatively in person at the Council office at 9:30 a.m.

### **5.3. Meeting Adjournment**

The meeting was adjourned at 3:15 p.m.

– NEW ACTION ITEMS –

**3.1. Review Matters Arising/Action List - CE Code-072 Concrete Encasements**

In the meantime, it was suggested the existing STANDATA be updated to clarify the following: Table D11A D11B assumptions for installations. RHO 90, LF 100%, Earth Ambient 20C, Concrete Duct Bank.

[Cormier]

**3.4. Review Matters Arising/Action List – Mast Couplers**

It was suggested that Municipal Affairs and AJHs work with the manufacturer to develop requirements for kits for sale in Alberta, as this is process for other provinces. Adam Ghani will meet with the manufacturer to discuss further.

[Ghani]

**3.4. Review Matters Arising/Action List – BILD Alberta Letter**

As an aside, Gerry Wiles reported he is participating on an Alberta Utilities Commission working group discussing a similar topic and he will bring will bring an update to next ESC meeting.

[Wiles]

**4.1. Curriculum Review**

The Acting Director will send information about lightning protection training to Glenn Hedderick and Gerry Doan through Council Administration staff.

[Schmaltz/Derkach]

**4.3. STANDATA Variance 21-ECV-002-024-LFT**

It was suggested that the wording in the STANDATA be adjusted so that it doesn't contradict with what ULC is doing. A revised version will be brought back to ESC for review.

[Cormier]

**– MOTIONS –**

**1.1 Agenda Adoption**

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**4.6.2. Colour Coding**

**Adam Ghani / Gerry Doan move to make the noted changes and submit the colour coding code change proposal to CSA by the Electrical Sub-Council; CARRIED**

**Adam Ghani / Patrick Conway move that Adam Ghani or his delegate be the CSA duration member for the colour coding proposal; CARRIED**

#### **4.6.3. Non-Metallic Outer Jacket Cables**

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**– WORKING GROUP MEMBER LISTS –**

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