



MINUTES OF THE ANNUAL TECHNICAL CONFERENCE – FEBRUARY 3-4, 2017

A. Called to Order and Chairman's Address

The meeting was called to order by the Conference Chairman Larry Cantelo at 8:30 a.m. The Chairman welcomed all delegates and guests to the 21st Annual Technical Conference of the Electrical Inspectors Association of Alberta (EIAA). Sponsors and vendors were introduced and thanked for their participation.

Housekeeping and evacuation procedures were provided. All delegates introduced themselves.

It was reported that the EIAA Annual General Meeting is scheduled for Saturday, March 4, 2017 in Red Deer.

President Michael Chledowski welcomed everyone to the meeting and thanked everyone for their participation. The need to embrace change in the organization was emphasized because of the changes in the industry. Members were encouraged to keep an open mind as the organization moves forward.

Members that recently passed away were recognized.

Don Letcher was recognized for his recent international award.

B. AMA Updates

Thomas Djurfors, Executive Director, Safety Services was welcomed to the podium and reported on the past year that has been extremely busy for AMA:

- Alberta Safety Codes Authority was launched on May 1, 2016 to oversee all unaccredited areas
- Work continues with the Safety Codes Council on a new Roles and Mandate Document
- An implementation plan is being developed relative to Administrative Penalties
- Administrative Penalties are not intended to replace orders or prosecution when deemed appropriate
- Work continues to be done on the timely code adoption process and harmonization with national model codes. Many regulations are already adopted that put automatic code adoption in place and it is hoped that all regulations will be revised by 2018.

- A lot of work has been required relative to the Energy codes work and CHBA has also offered their assistance to industry
- A lot of work is being done together with the Justice Department relative to the Federal legalization of cannabis. Alberta will be looking at transportation, taxation, classification of these commercial facilities and the differences between medical and non-medical use.
- Relative to the Exemption Order for housing of Persons with Developmental Disabilities, these are to be treated as single family residences if 4 or less residents
- The province is considering a builder registration / licensing program

C. Professional Development Requirements

A brief update was provided on the professional development requirements for all SCOs that will be implemented likely some time in 2018. It was reported that based on the structure being considered, it is not expected to be onerous. Further information is available on the Safety Codes Council website at: <http://www.safetycodes.ab.ca/SCO/Certification/Pages/Professional-Development-Program-for-SCOs.aspx>

D. Chief Electrical Inspector Update

Chief Inspector Clarence Cormier was welcomed to the podium and provided his background. Each of the staff members in the electrical discipline at AMA were introduced and SCOs were encouraged to contact either the Chief Administrator or any one of the staff members when needed.

Codes and Standards

2016-01-01 – Electrical Code amendment regulation (AR 126/2015) came into force which adopted:

- 2015 CE Code, Part 1
- 2015 O&G Code
- Provision for automatic code adoption

In April 2016, the 2016 Alberta Electrical Utility Code was published and with the automatic code adoption already in place, this will come in force on 2017-05-01.

An overview was provided of the 2016 regional SCO meetings hosted by AMA.

An overview was provided of the involvement on technical and advisory committees with:

- Canadian Standards Association (CSA)
- Underwriters' Laboratories (UL)
- Safety Codes Council
- AIT Electrician provincial apprenticeships
- Utility Safety Committees

Other activities include:

- Incident Reporting
- Product Certification Monitoring
- QMP Auditing
- Alberta Electrical Association (League)
- PVMA (Certification of UTTs and UTWs)

There were no questions from the floor.

It was noted that should anyone need clarification on any of the Building Code Changes they may contact safety.services@gov.ab.ca or 1-866-421-6929.

E. Old Business Items

Don Bradshaw provided an overview of the following old business items.

- Proposed changes to Rule 8-400(2) to allow automobile heater receptacles to be 20 A not just 15 A. This is tied together to a proposal for changes to CSA Standard C22.2 No. 191 Engine Heaters and Battery Warmers. This must be changed before the electrical code rule can be changed. Our report to the 2016 conference indicated the C22.2 No 191 subcommittee has started working on the new edition of this standard that will include this proposal. The new edition was scheduled to be completed by the end of 2016. Upon completion of the standard a proposal will also be submitted to change Rule 8-400(2). No new update available.
- 2016-11: CE Code 2015 – 18-154(3)(b) – It was questioned how industry is ensuring that cables do not terminate in a non-hazardous area with negative pressure. No action has been taken
- 2016-12: CE Code 2015 – 26-724(f) AFCI protection in residential occupancies - a request for interpretation was submitted to CSA Part 1 and the questions were:
 - 1) Where a branch circuit originates from a panelboard within a dwelling unit and feeds receptacles (rated 125 volt, 20 amps or less) that are associated with but outside the dwelling unit (such as in a yard, accessory building or detached garage), does that branch circuit require AFCI protection as described in 26-724 (f) and (g)?
 - 2) Where a feeder originates from a panelboard within a dwelling unit to a subpanel in a location associated with but outside the dwelling unit (such as in an accessory building or detached garage), are receptacles located outside the dwelling unit (rated 125 volt, 20 amps or less) fed from that subpanel required to have AFCI protection as described in 26-724 (f) and (g)? Although no official response has been received, indications from members of the committee suggest that both questions have received a majority vote of “no”.

- 2016-01: CE Code 2015, Section 24 – Part of this discussion at the 2016 conference was the use of a form for the Health Care Facility Administrator to declare the patient care areas in the development. There are a few municipalities that have these. The membership indicated it would be nice to see one form used throughout the province for consistency. Airdrie has developed and tested an electrical “patient care area” declaration form to be completed by a Health Care facility Administrator as part of the permit application process and this is working well. It also has an accompanying guide booklet to help the Administrator understand what it is we are looking for and why we need this information. A copy of the form and booklet was included in the conference package with old business items and members are encouraged to contact don.bradshaw@airdrie.ca if they would like an electronic copy for use in their area or municipality.
- 2016-07: CE Code 2015 – 4-004 – this agenda item is dealing with underground installation configurations in the Diagrams (such as D11) and the corresponding cable ampacity tables. There are numerous questions surrounding the diagrams, in particular are these meant to be concrete encased? This is still with the Electrical Sub-council.

A discussion was held regarding a topic from the 2008 conference regarding wireless devices and what different municipalities are accepting for both wireless smoke alarms and switches. It was noted that a question from the conference was put forward to Part 1 in 2008 relative to wireless devices and use of them was rejected as recorded in 2012 CE Code Apx I 30-504 (2). With advancing technologies, it was suggested this be resubmitted for consideration. It was noted that Section 30 states wall “switch” and the definition of a switch could include either wired or wireless. The use of wireless interconnected smoke alarms was also discussed. ABC specifically uses the word “wired” when describing interconnection, which limits the use of wireless interconnected smoke alarms to only one situation outlined in a Fire Standata (for existing secondary suites). This led to a discussion regarding CAN/ULC-S553 – Standard for Installation of Smoke Alarms and the need for Electrical SCOs to review the standard as there are a lot of different requirements included.

F. Guest Speaker – Ark Tsisserev – AES Engineering

Ark Tsisserev of AES Engineering was welcomed to the podium and provided a presentation on the ***Consistency in Application, Installation and Enforcement of Electrically Connected Life Safety Systems***.

The presentation focussed on the need for Electrical SCOs to learn and understand all provisions in the Building Code, CE Code and relevant Standards (e.g. CAN/ULC-S553 Standard for Installation of Smoke Alarms) to ensure compliance with the installation on enforcement of electrically connected life safety systems.

Several examples were provided of building code requirements and related standards that need to be followed and although electricians are installing these life safety systems, Electrical SCOs are not enforcing that part of the code.

Mr. Tsisserev provided an overview, examples and rationale of various provisions of the CE Code, Building Code, relevant CSA, NFPA and ULC standards for application and installation of electrically connected life and fire safety equipment such as fire alarm systems, emergency generators, fire pumps, sprinkler systems including heat tracing equipment, transfer switches, smoke alarms, exit signs, emergency light, electromagnetic locks, hold open devices, elevators and protection of conductors supplying this equipment against exposure to fire.

The need for understanding all relating code provisions and relevant standards was emphasized. Although location or clearance is in the Building Code and the responsibility of the Building inspector, they are electrical devices that are installed under the Electrical Code by electricians.

Three questions to ask:

- What?
A list was provided of the Fire protection requirements of the NBCC that are already in the CE Code.
- Why?
To assist electrical designers, installers and regulators in a consistent application of the CE Code requirements and the CE Code references; to design electrical equipment such as fire alarm systems, emergency generators, etc.
- How?
Examples were provided of relevant standards and appendices, particularly Appendix G – Electrical Installations of Fire Protection Systems; components of a typical fire alarm system and electrical supervision of fire alarm systems

G. Guest Speaker – Sunny Ghataurah and Ark Tsisserev – AES Engineering

Sunny Ghataurah of AES Engineering was welcomed to the podium and provided a presentation on the ***Implementing Electrical Requirements of NECB with Related Codes and Standards***.

An overview of the presentation included:

AES Story

- AES Engineering looks after anything that carries a pulse or signal, wired or wireless, built environment to communication, energy to carbon reduction
- Heavily involved in codes and standards development
- Acts in consulting capacity to authorities having jurisdiction in Alberta and BC
- Educational programs

Energy: Standard or Code?

- National Energy Code of Canada for Buildings (NECB) 2011 – currently the only option in Alberta
- Building Code matters because of the location of equipment, life safety, installation
- Illumination levels – in Building Code, not inspected by Electrical SCOs
- New building – must enforce 9.36 Energy Efficiency for Small Buildings (Part 9) or NECB for anything that isn't Part 9
- NECB is applicable to all buildings and is in parallel to the Alberta Building Code and is a standard not a code

Code Adoption & Scope

- Temporary structures should never be considered temporary
- Electrical SCOs don't have the jurisdiction to enforce anything in the Alberta Building Code, they can advise the Building Official of the non-compliance but have no authority to write an order – this needs to change
- If built in accordance with NECB now, any future renovations must comply with whatever NECB is currently in force
- Existing buildings – not required to be NECB because it was never built to NECB; NECB would only apply if an existing building was completed gutted and rebuilt or a vertical or horizontal floor space addition is done and then only that addition has to be NECB

BC Lessons Learned:

- BC introduced compliance forms
- Conditional, provisional or partial occupancy – with NECB that model is not going to work
- Commissioning needs to be done, including lighting, before an occupancy permit is issued. This is no different than how we have always required the fire alarm verification to be complete and documented before occupancy. The commissioning of these integrated systems must be performed as a whole to ensure the proper operation and inter-relationship between the systems. During the commissioning process, you are turning off everything, testing systems and fail-safe components to prove they work as intended. How can you do this when the building is even partially occupied? And commissioning agents need as-built drawings to do this testing. Without this testing being completed, it cannot be confirmed that NECB, life safety and fire protection systems are installed to comply with all the provisions of the codes and standards. The Electrical Engineer is required to provide a C-2 Schedule before occupancy occurs. If you allow occupancy before commissioning is completed, that schedule would need to be a "qualified schedule", not a full schedule with a line added that says the building is complete except for commissioning and compliance with NECB. A partial schedule does not mean anything and is not recognized in the ABC. Courts and governments are pushing back against the practice of partial occupancy because it places municipalities in the position of sharing liability with the engineer if they allow occupancy before complete testing is done and full schedules are completed.

- Since 2013, Vancouver and BC require compliance forms with Building Permit and verification at project completion

Compliance Forms

- Showed AES Energy Statement on all drawings
- Showed New Construction Compliance Form
- New Construction Building Permit & Occupancy Form
- NECB Compliance Forms – when purchasing NECB, get the “user guide” with forms
- Flow charts shown different compliance paths – Prescriptive, trade-offs or performance-based
- Showed Table A-9.36.1.3. Energy Efficiency Compliance Options for Part 9 Buildings

What’s new in NECB 2011

- Overview of Part 8 changes in NECB, including minimum efficiencies for transformers and 250kVa and larger require infrastructure to accommodate metering of consumption – just provision for – e.g. rough in, plug in box
- Reduced LPD for some spaces
- Lighting exceptions
- Examples of additional lighting controls – auto shutoff all spaces, rules around daylight
- Exceptions for safety, security or eye adaption
- Mandatory commissioning for all controls including functional testing

Why does it matter?

- Approach to design changes, lighter finishes, less slim luminaires
- Creating retail rebranding because you can reach compliance to new energy codes

Building STANDATA

<http://www.municipalaffairs.alberta.ca/documents/ss/STANDATA/building/bci/14-BCI-001-ApplicationEnergyEfficiencyRequirements.pdf>

City of Calgary Submissions Flow Chart was shown on screen.

The meeting was recessed at 5:00 pm and reconvened at 8:00 a.m. on February 4, 2017

Conference Chair, Larry Contelo, reported that change is imminent and it is critical to stay up to date. Conference Committee members were introduced and recognized for their work in putting the conference together. Sponsors, participants and speakers were thanked for their participation.

Participants were reminded to complete and submit the feedback form included in their conference package. It was reported that consideration is being given for changing the dates of the conference to possibly a Thursday and Friday or a Saturday and Sunday.

EIAA Solar PV training sessions are scheduled at the IBEW training facilities on:

- March 25 – Edmonton 9 to 1 pm
- April 8 – Calgary 9 to 1 pm

H. Committee Reports

H. 1. Electrical Sub-council (ESC)

Gerry Wiles was introduced and provided an on-screen presentation. Highlights of the presentation included:

In September 2016, Gerry Wiles was appointed Chair. Two new vice chairs were also appointed last year – Glenn Hedderick as Vice Chair South and Scott Basinger as Vice Chair North.

Four new members were appointed to the ESC:

- Adam Ghani, representing Large Municipalities
- Tim Driscoll, representing Petrochemical Industry
- Charlene Smylie, representing Municipalities
- Don Bradshaw, representing Electrical SCOs

In 2016, the sub-council lost a long-time member and champion of electrical safety when Stan Misyk, who was Chair of the ESC, passed away in March. He had a long history of involvement in electrical safety codes and is deeply missed.

The industry segments that sub-council members represent are established in the ESC's membership matrix. The matrix can be found in Policy 9.50 – Matrices in the Policy Manual on the Council website. Members bring the perspective and input of their industry segment to the sub-council's discussions, and they also take information from the sub-council back to their nominating organizations.

The ESC has four active working groups, which undertake work on behalf of the sub-council and provide advice and recommendations to the sub-council on specific topics.

- Canadian Electrical Code Working Group, chaired by Scott Basinger
- Master Electricians Advisory Working Group, chaired by Darcy Teichroeb
- Alberta Electrical Utility Code Working Group, chaired by Stewart Purkis
- Oil and Gas Code Working Group, chaired by Tim Driscoll

In 2016, the ESC moved to publish the Fifth Edition of the Alberta Electrical Utility Code, after a thorough review by the working group. The code comes into force on May 1, 2017. The ESC also recommended mandatory code update training for Electrical Group B SCOs to ensure they are knowledgeable of the changes made in the new edition. The training department will be issuing an RFQ, and hope to provide training close to the in-force date (May 1). The exact timeline will depend on the responses received.

The ESC also oversaw the redrafting of the Master Electrician Policy 4.130, which was approved by the Board of Directors in November. One of the notable changes to the policy is the addition of a Code of Ethics for Master Electricians. This is available on the Council website at:

[http://www.safetycodes.ab.ca/SCC_Documents/4.130%20-%20Master%20Electrician%20Program%20v1.0%20\(11-25-16\).pdf](http://www.safetycodes.ab.ca/SCC_Documents/4.130%20-%20Master%20Electrician%20Program%20v1.0%20(11-25-16).pdf)

The ESC worked on numerous STANDATAs, Variances, and Information Bulletins, including:

- Revising and Re-issuing the Section 32 STANDATA with wording to include the new Alberta Building Code's requirement of smoke alarms in all bedrooms.
- Drafted a STANDATA to clarify the proper application of the Special Inspection program (intended only for equipment approval, not intended for installation approval) as covered in the scope of CSA SPE-1000.
- Drafting and recommending STANDATA CEC-62 to the Chief Electrical Inspector regarding Immersion Heaters to address gaps in labeling requirements, as well as installation information and installation practices which also includes a graphic of an immersion heater example to provide even further clarity.
- Drafting and endorsing a reissuance document for STANDATA (F.9.03.16), regarding Oil and Gas Electrical Submersible pumps which was set to expire on 31 July 2017. The redrafted Variance STANDATA was reviewed and the following was added at the end *"This variance will remain in effect until such time as it is revoked by the Administrator."*
- Renewing the VAR-AEUC-Scope (which would have expired on 15 April 2016), and giving it a new expiry date of the in-force date of the Fifth Edition of the Alberta Electrical Utility Code. (May 1, 2017)
- Recommendation to the Chief Electrical Administrator that an Interpretation Bulletin STANDATA be drafted to clarify CEC Submission Rule 26-724(f)(i) (ESC E.3.01.16), which stated that AFCI for septic pumps is not required if it is not located in a dwelling unit.
- Recommending to the Chief Electrical Administrator to draft and release an Information Bulletin STANDATA for clarification on Rule 26-724(f) (F.8.02.16), stating that a detached

garage, without the facilities that define a dwelling unit, for the purposes of this section is not part of the dwelling unit and therefore would not require AFCI.

- Recommended that ESC request for interpretation be sent to CE Code Part 1 ESC F.4.01.16, on whether concrete encasement for under 5kv was removed in error on the 5kv tables or whether this was intentional.

H. 2. CEC Working Group

Scott Basinger reported that based on his short time as the Chair, it is clear the amount of work that Stan Misyk put into the working group. An on-screen presentation was provided and highlights included:

- A list of all working group members
- Scope and purpose of the working group
- 14 issues are being worked on with 4 meetings planned this year
- The submission protocol was explained

H.3. Oil & Gas

Rene Leduc provided an on-screen presentation and highlights included:

- A list of all working group members
- 4 subjects received and are still being worked on:
 - Diagram B2 Substructure – enclosed area
 - Diagram B4 to delete – rejected
 - Diagram B5 – title changed to ...explosive gas atmospheres **may** be present
 - Diagram B6 – enclosed area
- An overview was provided of other business including revisions to the Terms of Reference and recommendations to the ESC to maintain the Electrical Submersible Pump Variance STANDATA
- An update was provided to the significant changes to CE Code including:
 - 18-004 Classifications of hazardous locations, overview of changes and appendices notes – explained some of the issues and how this relates to the O&G Code – if engineering the code doesn't apply
- A Canada map was shown of where the Oil and Gas Code is adopted and used
- Clarification was provided regarding hazardous location and negative pressure – rules of the code have to be applied if there is an indication of negative pressure

It was questioned regarding “shall” instead of “should” and it was noted that “shall” cannot be used in appendices.

It was clarified that the area of classification is based on when it was built. Most have now gone to Zone 2 classification and toward professional involvement. If very complicated, there is a

need to ensure that the right people with the right qualifications are reviewing for relevance and significance of the properties of the hazardous materials.

H.3. Master Electricians Advisory Committee

Walter Chledowski was welcomed to the podium and reported on his frustration regarding the slowness of how things are progressing. Some successes have included revisions to all of the questions on the Master Electrician examination and the requirement to sign a Code of Ethics.

Areas that need to be worked on include one Master Electrician signing for multiple companies. Council staff and government changes have all contributed to the frustration and delays.

H.4. AEUC Working Group There was no one in attendance to provide a report.

H.5. Certification Bodies There was nothing to report.

I. Technical Agenda Items

Don Bradshaw led the agenda items submitted for discussion. During the agenda item discussions, it was questioned regarding process and confirmed that the association does it's best to respond to the proponent on any decision or clarification.

For details on the agenda item discussion – see concluded version – agenda items.

H. Other Business and Adjournment

Further clarification was provided regarding Rule 26-726 being just for single family dwellings and not applicable to multi-family. No further action was recommended.

Members were reminded to return their lanyards and feedback forms.

The meeting was adjourned on Saturday, February 4, 2017 at 11:45 a.m.