Auditor Debrief

November 3, 2020

Disclaimer

- The information in this presentation was prepared as discussion points for the auditor meeting. In some cases more information may be required to understand the issue fully as discussed during the meeting. For more information please contact jason.hrycyshyn@electricalsafety.on.ca or *Utility.Regulations@electricalsafety.on.ca*.

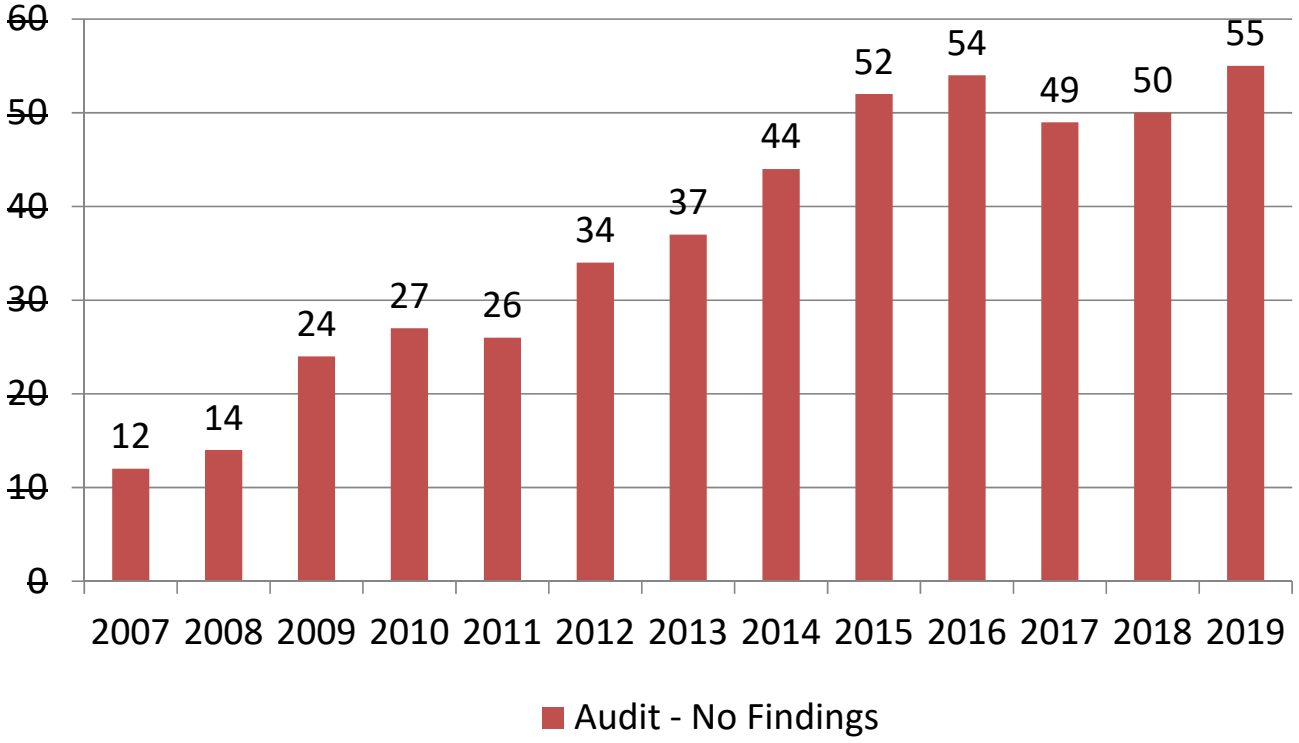
AGENDA

1. Review of 2019 Audit results
2. Key 2019 Audit Findings
3. Possible Future of Electrical Distribution
4. 2020 Questions & Issues / Auditor Feedback
5. Focus of 2020 Audits
6. Other Information
    a) Bulletins
    b) Other Issues

Summary of Audit Findings for 2019

- Total of 63 LDC Audit reports (with 1 no submission)
- Only 11 completed.
- 55 LDCs - Full Compliance (‘18-50)
- 2 LDCs with Non-Compliance findings
- 6 LDCs - Needs Improvement only
- 3 LDCs with only one finding (NI or NC)
- 4 LDCs with two or more findings (NC or NI)
- 0 LDCs had more than 1 Non-compliance

Summary of
Audit Findings Life to Date



Section 4/5 Audit Findings

Section 4/5 – Safety Standards

- Inspection programs not meeting the minimum requirements of Appendix C of the Distribution System Code.

Section 6 Audit Findings

- Nothing appears to be common.

Section 7 Audit Findings

Section 7 – Approval of plans, drawings and specifications for installation work

- 3rd Party work issues:
  - Work doesn't reference the approved standards. This may relate to confusion/misuse of "materially insignificant". (UAC Discussions)
- Confirmation of software for non-linear design.

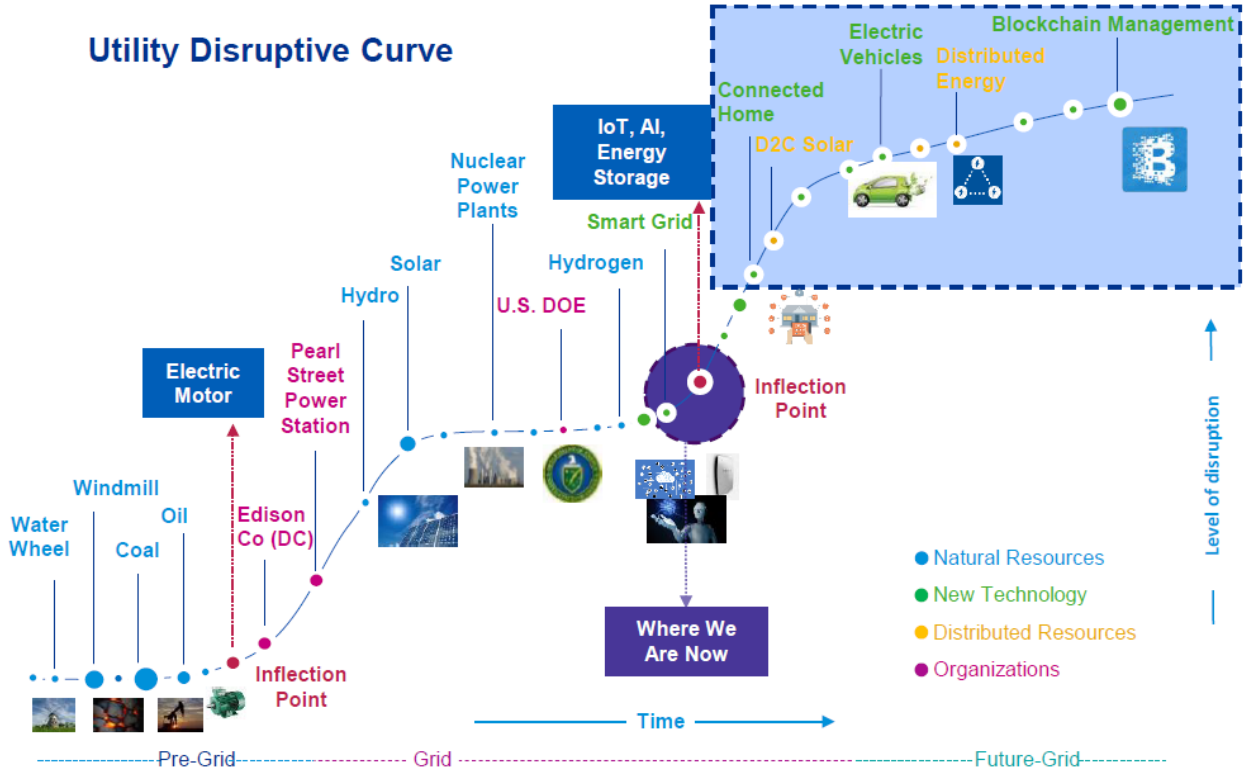
Section 8 Audit Findings

- Nothing appears to be common.

Regulator's View of a Changing Distribution Sector

The following are possible outcomes ESA is keeping an eye on

Possible Changes to Distribution



Distribution Energy Resources
IESO

IESO's Innovation Group - "Non-Wires Alternatives (NWAs)"

- White paper: Exploring Expanded DER Participation in the IESO-Administrated Markets
- DERs as local resources – replace long feeders

Some projections:

- Windsor-Essex: electricity demand to **double** over the next five years
- Kingston Area: electricity demand to **triple** by 2026
  - New transmission line
  - DERs

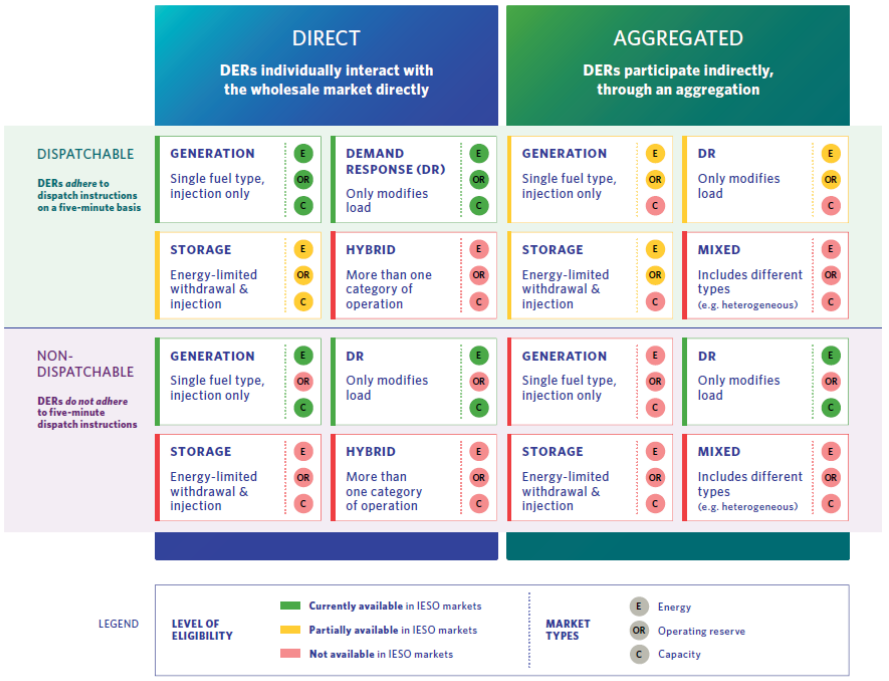
Distribution Energy Resources
IESO

- Methods to secure non-wires alternatives

Programs	Procurements	Pricing
✓ Feed-in tariffs	✓ Request for Proposals	✓ Time-of-use rates
✓ Net metering	✓ Auctions	✓ Dynamic rates
✓ Energy-efficiency programs	✓ Contracts	✓ Demand charges

- Currently, the capabilities and potential benefits of DERs may not be adequately accounted for and leveraged in the planning process

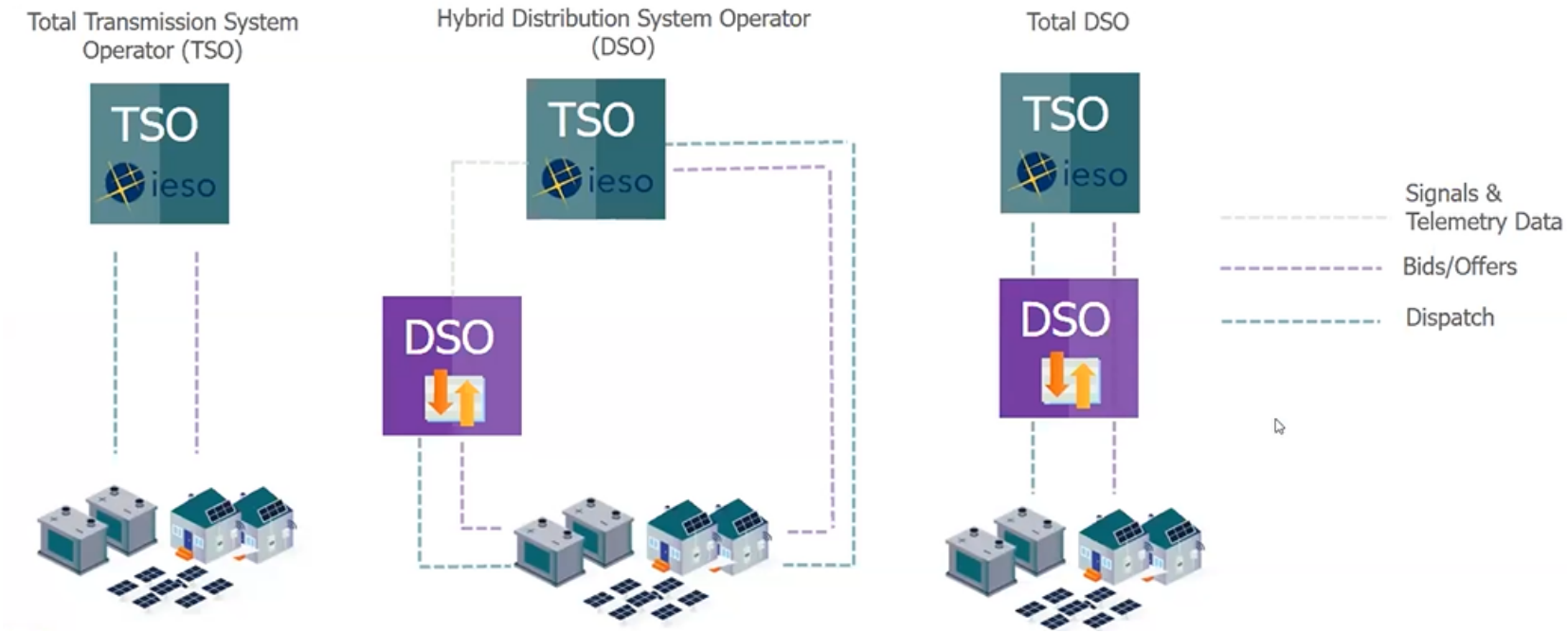
FIGURE 12 – DER PARTICIPATION MODELS AVAILABLE IN CURRENT AND PLANNED IAMS



Note: Participation models listed as currently or partially available, are only open to resources that meet the IESO's current minimum-size threshold of 1 MW. A resource's participation through these models is also subject to additional requirements and considerations.

Distribution Energy Resources
IESO – Options for control and coordination

Transmission – Distribution Coordination of NWAs



Distribution Energy Resources

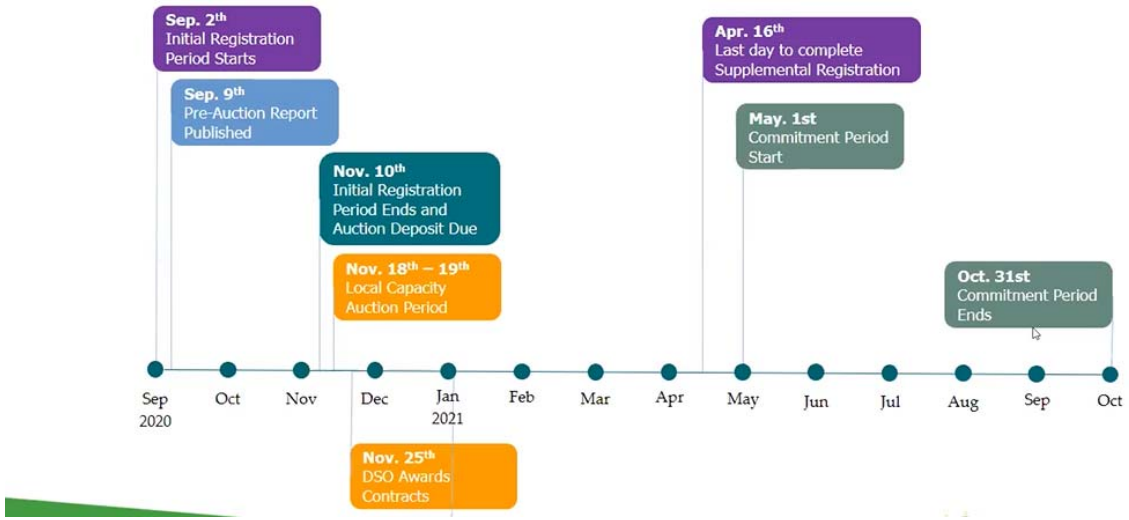
IESO ‘s York Region Non-wires alternatives demonstration

Distribution Energy Resources

IESO ‘s York Region Non-wires alternatives demonstration

ESA needs to be involved.

Demonstration project timelines:



COVID 19
Residential Loading After COVID - 19

ESA was in conversation with some medium sized Electrical Distributors recently to discuss loading impacts after COVID – 19.

The Electrical Distributors mentioned they did not see a significant difference in residential loading since COVID – 19 and are working with ESA to see if the service size calculations in the Canadian Electrical Code (CEC) Part I could be lowered as they feel and were showing ESA data indicating the calculated loads were significantly higher than actual use data showed.

Maintenance of Distribution Systems

ESA is looking into CSA C22.3 No.11 (Maintenance), and the applicability of this standard for use in Regulation 22/04.

No.11 - Maintenance of Electric and Communication Utility Equipment & Systems

This Standard specifies requirements for the maintenance of electrical and communications supply equipment and systems owned by electric and communication utilities. This Standard applies to new and existing electrical equipment where they are employed by a utility in the exercise of its function as a utility.

Includes Generation, Transmission, Stations, Distribution and the Communications Utilities

Content Development has a planned completion date of Fall 2021.

Publication is planned for Summer 2022.

Open Data – EV Sharing

ESA is looking into how it can efficiently share data it has collected on EV Charging Systems

ESA has been informed by some LDCs that the data ESA collects with respect to where and when EV charging systems are installed is very valuable information for Electrical Distributors so that they can plan and maintain customer service levels.

ESA is looking into how to share this information efficiently.

Auditor Question

Q. How is ESA addressing questions regarding the integration of mCARE into Electrical Distributor processes.

A. ESA continues to need some evidence of a non-undue hazard statement as per Regulation 22/04 for this type of work. ESA is happy to discuss options, including that the statement be included in “general documentation” (procedure, process, and/or work instruction) and/or the CVP. If included external from the software, the inclusion of the “no undue hazard” wording into general documentation should be include in any training to effected staff.

Auditor Question

Q. Is ESA interested when an Electrical Distributor accepts “Certified Test Reports” that are not “Type Tests”, when the “Type Tests” should be available. For example, a 6MVA transformer is made and the Electrical Distributor is provided “Routine Test” results without “Type Tests”. “Type Tests” should be available for transformers.

A. ESA will look into drafting a Bulletin to address this issue. I have some additional consulting to do. The current draft copy of the bullet states:

- As a minimum, the mandatory “Type Tests” shall be documented as part of a “Certified Test Report”, to be found compliant with Regulation 22/04, when using the “Industry Standards Recognized by ESA” option.
- Note: ESA accepts that the “Type Test” data may be provided from tests performed on other units whose equivalence, with regard to each required test, is acceptable to the purchaser.

Auditor Question

Q. Transformers often state on a nameplate or test report that it is “built to C88” or some other standards. Please comment on this verbiage.

A. The statement has no actual meaning, in regards to Regulation 22/04. The Certification Organization’s logo or approval marking is what an Electrical Distributor would have to show to indicate that the equipment is approved by a Certification Organization.

Auditor Question

Q. Discuss progress on review of the Technical guidelines.

A. ESA has grouped the Technical Guidelines into a logical sequence, into 5 different years. The plan is to revise or reaffirm the Guidelines on a 5 year cycle. Work has begun on revising the Excavation Guideline and a new guideline is expected to be presented at the next UAC meeting.

Auditor Question

Q. Some LDC's have listed System Operators as "Qualified Person" to complete Record of Inspection and or Certificate. My understanding is that the System Operators may not have training, experience and knowledge with the specific plan, work instructions or application of Standard Design Drawings utilized by the distributor to construct its distribution system. And also, in order to complete the Records of Inspections and Certificate, the qualified person must visit the site. The system operators hardly visit the site.

On the other hand a P. Eng. completing the Record of Inspections and Certificate will visit the site.

Based on the above I believe System Operators should not be qualified to complete Records of Inspections and or Certificate.

A. ESA has taken the comment under advisement and plans to question this in revised CVPs. ESA is looking at undertaking a review of CVPs to assess how often this occurs and if revisions will be required.

Auditor Question

Q. Section 4.3 - Maintenance and inspection for equipment up to 750 volts not part of distribution system.

Some LDC's perform maintenance/inspection/repair for street light systems on behalf of the municipalities under yearly ESA's Continuous Safety Service (CSS) Program Certificate. The LDC will keep a log of the work completed. ESA inspectors will review the work completed by LDC either every three, four, six months or once a year.

LDC's do not own the street light system asset and are not a part of the distribution system.

Question: Should auditors review the closed street light work orders?

A. No, unless the street lighting has been deemed part of the distribution system. ESA is not aware of any instances where this has occurred. All parts of the distribution system covered under Regulation 22/04 are required to be covered under the maintenance program, including electrical installations operating at 750 volts or below that are not a direct part of a distribution system.

Auditor Question

Q. Revision to ESA's Guidelines Sections 6, 7 and 8. Will ESA ask the auditors for any input? The last revision was done on September 15, 2008.

A. ESA typically would create a Working Group and that Working Group would present a draft to the UAC. ESA sees that Auditors would have valuable input into the documents and has made a note to request comments from Auditors.

Proposed schedule – Order in which to address guidelines **(Note 1)**

1) Year 1 - Guideline for Excavation in the Vicinity of Utility Lines (Section 10)
2) Year 1 - Guideline for Third Party Attachments (Section 7 & 8) – **(Note 2)**
3) Year 2 - Technical Guideline (Section 7)
4) Year 2 - Technical Guideline (Section 8)
5) Year 3 - Technical Guideline (Section 6)

Note 1: Order may be changed as needed to address new requirements, stakeholder feedback, etc (e.g. Regulation amendments).

Note 2: Review includes assessing to incorporate into Technical Guidelines, either as 4th section or incorporate into sections 7 & 8.

Electrical Safety Authority

Proposed schedule – Order in which to address guidelines

6) Year 4 - Guideline for Change of Ownership (Section 3) **(Note 3)**
7) Year 4 - Guideline for Proximity to Distribution Lines (Section 10)
8) Year 4 - Guideline for Disconnecting Unused Lines (Section 11)

9) Year 5 - Guideline for Reporting of Serious Electrical Incidents (Section 12)
10) Year 5 - Guideline for Audit (Section 13)
11) Year 5 - Guideline for Declaration of Compliance (Section 14)

Note 3: Main participation is ESA internal, specifically Operations group since they perform inspections of equipment/installations to be transferred

Electrical Safety Authority

Auditor Question

Q. ESA's process to approve CVP's? As an auditor I find gaps between CVP and actually completing Records of Inspections and Certificate.

A. ESA is always interested to hear about gaps in the regulatory process and encourages any observations be submitted to ESA. Is there more details to this comment that can be shared?

Auditor Question

Q. Can Field Evaluation be used on Utility substation equipment or is there a limitation on its use, for example for power transformers that one would expect to see reference to CSA standard C88?

A. ESA does not limit the scope of Field Evaluation Agencies, they are expected to work within their allowed scope. So if a label is affixed to the equipment by an accredited Field Evaluation Agency the approval will be considered to be in compliance with Regulation 22/04. More information can be found in the Guideline under the “Field Evaluation of Equipment” section.

Focus of 2020 Audits

CSA Clause 1.2 (ESA Bulletin – DB-01-20)

- ESA has released DB-01-20 which directs LDCs to which CSA standards they can reference for their Certificates of Approval. Various scenarios are presented.
- This bulletin has significant ramifications on LDCs.

- Highlights
  - Altering or adding new structural loads to a structure that were **accounted** for by the original design.
    - Can use the standard in force at the time of the line's original design. Example: Linear Analysis can be used.

  - Altering or adding new structural loads to a structure that were **unaccounted** for by the original design.
    - Shall use the current standard or the edition identified in Regulation 22/04. Example: Non-Linear Analysis shall be used.

Focus of 2020 Audits

Clause 5.8.3.3

- Midspan Structures that Support only the Communication Conductors
  - Change in direction from last year.
  - ESA will not require Certificates of Deviation for this work while the CSA Technical Committee continues its work reviewing the requirement.
  - The CSA Technical Committee's next meeting is soon.

Focus of 2020 Audits

"Work Instructions" vs "Plans" – **Continued from last year**

Approval of Software for non-linear analysis work

If a Professional Engineer signs off the use of SPIDA Calc or PLS Pole, as they would an approved standard (with a Certificate of Approval) or equivalently recognizes that the programs are harmonized with the standard, then the work can be considered a "Work Instruction" and the Certificate of Approval would be with the Professional Engineer that approved the use of the program.

ESA will be working on bulletin direction on this, this year. ESA is using the PEO's guidance document on the use of software as a seed document.

Bulletins published

Bulletins

DB-01-20 Previous Editions of the Overhead and Underground Standards

DB-02-20 Approved Auditors

DB-03-20 COVID-19 – Updates for Audits and Declarations of Compliance

DB-04-20 Inverter Approval Accepted by OESC

DB-05-20 Audit & DoC Due dates - 2020 Groups 1, 2, 3.

Flash Notices

none

Other Issues

1. Configurations of Concern – On-going
2. Auditor General - On-going
3. Legislative Review Panel, Ontario's Broadbank Plan & Building Transit Faster Act - On-going
4. ESA Staffing Levels - Resolved Soon
5. DERs, Reg 22/04 Guideline - Updated
6. AODA and the website - On-going
7. CSA (O/H & U/G) standards on track for a 2022 edition (Climate Change) - On-track
8. Load Serving Entities - On-going

Federal and Provincial Initiatives and ESA Regulations

Discussion Points:

1. Legislative Review Panel Report
2. Up to Speed: Ontario's Broadband Plan
3. Building Transit Faster Act

Legislative Review Panel Report

Highlights

- Review of communications laws
- Includes a review regarding access to passive infrastructure (e.g. structures).
- ESA has sent a letter in August 2020 to the federal ministry.

ESA continues monitor developments and seek to provide input with respect to the Legislative Review Panel Report.

Up to Speed: Ontario's Broadband Plan

Highlights

- Ontario government is looking to improve broadband access. Highest impact expected in rural areas.

ESA continues monitor developments and seek to provide input to government on safety regulations.

Building Transit Faster Act

Ontario has approved the Building Transit Faster Act (Bill 171) as of July 7, 2020.

The Act is designed to get transit built faster by:
"Relocating utilities more efficiently while treating businesses fairly, and ensuring costs are not passed on to consumers".

- Allow for Metrolinx to require a utility company to relocate its infrastructure within a prescribed timeframe. Introduce a clear process for managing disputes and allow Metrolinx to seek compensation from a utility company if timelines are not met.
- This is similar to the process used for highway projects.
- Amendments to the Ontario Energy Board Act, 1998 would prohibit the Ontario Energy Board from allowing provincially regulated utilities (electricity and natural gas) to pass compensation costs incurred from delays on to ratepayers.

Building Transit Faster Act

Regulation 22/04 requirements still apply to the Distribution System as they always have.

ESA is seeking input from this Council regarding the effects or potential effects related to the requirements of Regulation 22/04.

Load-Serving Entities and Regulation 22/04

At the most basic level, an LSE is an entity that is responsible for securing electricity resources to meet the supply needs of the customers it serves. They would assume the obligation to serve their load customers through planning and procurement of incremental supply resources.

In the event that LDCs could convert to Licensed LSEs, there would be impacts on ESA however they would primarily consist of minor amendments to the existing Regulation 22/04 and the Ontario Electrical Safety Code (OESC).

If the license exists, a Licensed Distribution Company (LDC) would typically have the option to voluntarily take on LSE Licenses, if they chose to pursue the additional obligations of an LSE. This could take of the form of a transition from an LDC to a LSE.

- Any Questions?

Just for Fun/Interest

- Coronal Mass Ejections. If you are interested in the topic the youtube link below provides a great overview of the topic in less than 10 minutes.

- Coronal Mass Ejections