



**Utility Advisory Council Members**

**LDC/Owner-Operator**

Alectra Utilities	Joseph Chiuco
Elexicon Energy Incorporated	Faisal Habibullah
Enova Power Corporation	Greig Cameron
Festival Hydro	Goran Borovickic
Hydro One - Distribution	Peter Petriw
Hydro One - Transmission	Ajay Garg
Hydro Ottawa	Edward Donkersteeg
InnPower Corporation	Arthur Berdichevsky
London Hydro	Greg Sheil
Newmarket-Tay Power Distribution Ltd.	
Toronto Hydro	Sushma Narisetty

**General Interest**

Bell Canada/Telecom Industry	Tony Pereira
Consumer Advisory Council	Sandy Manners
CSA Group	
IHSA	
Power Workers Union	

Quorum 2/3 of voting members (11/16)

**Other Attendees**

Anna Dunscombe (Ministry of Public and Business Service Delivery), Brittany Ashby, (EDA), Rob Koekkoek (Orangeville Hydro), Lori Gallagher (USF), Stephen Cain (OEB), Ryan Zade (Ministry of Energy), Glen Sturdy (Sturdy Powerlines – OEL), Shevan Mustafa (Enova Power), Marvio Vinhaes (ENWIN Utilities), Kim Liu (Bell), Melissa Gallina (LURA Consulting), Susan Hall (LURA Consulting), Alexander Furneaux (LURA Consulting), Shawn Blacklock (CoAC), Dave Ackison (CoAC)

**ESA Attendees**

Nansy Hanna, Jason Hrycyshyn, Sean Burger, Patrick Falzon, Claire Loucks, Ray Yousef, Mel Pace, Freda Lam, Anna Turkalj



**1 Notice & Quorum**

- The meeting had quorum

**2 Minutes of UAC Meeting**

The following motion was carried:

**Motion: To accept the minutes of the November 11, 2022 meeting**

**Motioned by: Ed Donkersteeg**

**Second: Ajay Garg**

**Motion carried.**

**3 Disconnect/reconnect requests timelines – CoAC (Shawn Blacklock & Dave Ackison)**

- Contractor members of the Contractor Advisory Council (CoAC) have expressed concerns at how long it takes to get a disconnect and reconnect form various LDCs
- Some LDCs have indicated that they are experiencing a backlog and it is taking some time to scheduled a disconnect and reconnect
- Contractors are looking to get a better estimate on how long to receive a disconnect and reconnect than the standard 4-6 days
- There have been cases where contractors have removed the meter on their own due to long wait times to perform work
- It was suggested that some LDCs attend the next CoAC meeting to discuss this issue with the Council.
  - o Next meeting is March 2, 2023 (9am-noon)
  - o ESA Communications will reach out to Hydro One and Hydro Ottawa to invite to the next meeting
- Section 7.3 of the Distribution System Code provides timelines that LDCs are to meet for appointments with customers

**4 Update on the 3-Phase 3-Wire Solidly-Grounded Wye Installations - Jason Hrycyshyn**

- An update on the status of this program was provided to the Council

**5 Using Software-Based Engineering Tools - Regulation 22/04 - Jason Hrycyshyn**

- ESA is using the Third Party Guideline working group to discuss software based engineering tools



- Some LDCs were using software to create work instructions and there was no sign off where the LDC has taken accountability

## **6 Connection Authorization Requirement for Utility Interactive Inverters - Mel Pace**

- Probably be inevitable that there will be many Utility Interactive Inverters coming online in the next few years. Right now it appears that this will be a complete 180 from where LDC documentation and agreements are currently
- Having grid support could future proof the installations
- ESA is only looking for certified equipment. Currently there are no Canadian approved grid support inverters so ESA is allowing UL approved grid support inverters if the LDC asks for it. We are now starting to see grid support inverters seeking Canadian approval
- If a grid support inverter is installed who is providing the settings?
- ESA explained that the current practice is not accepting “Grid Support Inverters” unless requested by the Electrical Distributors due to missing Canadian certification. Once “Grid Support Inverters” with Canadian certification are available, ESA will allow the installation of this equipment regardless if requested by the Electrical Distributors or not.
- ESA also explained that as a business practice, ESA will send a connection authorization to the Electrical Distributor indicating interconnected electrical power production sources.
- The question was posed from the Council if there should be further discussion on this (like a working group)
  - o Considering this is not electrical safety related, ESA suggests Electrical Distributors can meet on their own to determine any non electrical safety related requirements for this equipment. However, should the need arise to discuss any electrical safety points, ESA should be involved in the discussion

## **7 Guideline for Distributed Energy Resources (DER) - Review/Revise/Reaffirm - Jason Hrycyshyn**

- Two revisions were provided to ESA and they were accepted and the Guideline updated accordingly
- The revised Guideline has been posted to the ESA website (<https://esasafe.com/assets/files/esasafe/pdf/Utilities/Guideline-for-Distributed-Energy-Resources-DER-2.1.pdf>)
- The Guideline will be reviewed in a year



**8 LDC Safety Seminars - Patrick Falzon**

- In the past some LDCs would have safety seminars for contractors in their service territory
- If LDCs are starting up these safety seminars again Patrick is available to come out and present a powerline safety presentation

**9 Copper Theft Workshop - LURA Consulting**

- LURA Consulting led the Copper Theft Workshop and will provide ESA with the feedback and discussion from the Council

**10 Professional Engineer and Licence Status for Regulation 22/04 - Mel Pace**

- Regulation 22/04 a Professional Engineer is required to have a license status "Permitted to practice" to sign Ontario Regulation 22/04 documentation
- DB-02-09-v1 will be updated to align with current PEO practice
- Updates will be shared with the Council before being published

**11 Council Bi-Annual Survey & Results - Claire Loucks**

- EDA does have small LDCs in their membership and able to engage them with items that come from the UAC
- What about building a list of potential goals that we want to accomplish as a council in 2024? This could be a measure of how the council is at moving stuff along
  - o ESA is starting to work with Councils to develop a work plan for each council
  - o ESA can put together a draft work plan and circulate with the council

Action 2023-01-01: ESA to propose a draft work plan for the UAC and bring it to the next meeting for discussion. Claire Loucks

**12 EV Discussion - Jason Hrycyshyn**

- Some LDCs have indicated for now and the near future they are not interested in getting in to the EVEMS space
  - o Would rather see ownership of EVEMS with the building owner
- ESA was asked how it determines circuit loading for installations



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**Electrical Distribution Safety**

- OESC Bulletin 08-09-\* provides this direction  
[https://esasafe.com/assets/files/esasafe/pdf/Electrical\\_Safety\\_Products/Bulletins/08-03-14.pdf](https://esasafe.com/assets/files/esasafe/pdf/Electrical_Safety_Products/Bulletins/08-03-14.pdf)
- There is a lot of work being done at many levels (IESO, OEB, LDCs, LDC Affiliates, Customers, etc.)
- ESA to poll the Council to see if there is interest in a working group

**13 Vegetation Management Bulletin - Mel Pace**

- ESA has added definitions to bulletin DB-12-09
- Has ESA ever looked at aligning with the IHSA tree trimming  
(<https://www.ihsa.ca/PDFs/Products/ld/SPG8.pdf>)

**Motion:** To adjourn the meeting

**Motioned by:** Arthur Berdichevsky

**Second:** Sushma Narisetty

## Meeting of the Utility Advisory Council

Date: Wednesday February 16, 2022

Time: 9:00 AM - 1:40 PM

Location: Zoom Meeting

2019-03-01	ESA to develop a process for facilitating resolution of conflict between LDCs and a Third Party equipment owner	Jason Hrycyshyn
	Defer	
2021-03-01	Street Lighting Work that falls under CSS	Patrick Falzon
	Ongoing	
2022-03-02	Guideline for Distributed Energy Resources Council Feedback	Jason Hrycyshyn
	Updated version 2.1 being posted to the website.	
2022-03-03	Distributor Bulletin: Service Entrance Equipment that is under the control of the equipment owner	Patrick Falzon
	Ongoing	
2022-03-04	Vegetation Management of LDC Secondary Lines on Private Property	Patrick Falzon
	ESA to review if vegetation management around LDC owned secondary lines is viewed as a high risk activity. ESA to provide data on the number of incidents, contacts and injuries or fatalities related to vegetation management around LDC owned secondary lines.	
	Ongoing	
2022-03-01	ESA to close the voluntary reporting of meter failures program	Freda Lam
	Completed	

November 1, 2022

# 3-Phase 3-Wire Solidly-Grounded Wye Customer Services Update

Utility Advisory Council  
Jason Hrycyshyn



## 3-Phase 3-Wire Solidly-Grounded Wye Customer Services

FLASH NOTICE #1	January 2022	October 2022	February 2023
Number of Possible Configuration of Concerns	Number of Possible Configuration of Concerns	Number of Possible Configuration of Concerns	Number of Possible Configuration of Concerns
~15,000	~5,416	~3,662	2,983
Number of LDCs without a Possible Configuration of Concern	Number of LDCs without a Possible Configuration of Concern	Number of LDCs without a Possible Configuration of Concern	Number of LDCs without a Possible Configuration of Concern
12	35	39	41

2 UAC Presentation | November 1, 2022



## Contact Us

Electrical Safety Authority  
155 Matheson Blvd. West  
Mississauga, ON L5R 3L5  
[Utility.Regulations@electricalsafety.on.ca](mailto:Utility.Regulations@electricalsafety.on.ca)

Visit our website: [esasafe.com](https://esasafe.com)

Visit us on social media:



@homeandsafety



@ElectricalSafetyAuthority





# Using Software-Based Engineering Tools

## Regulation 22/04

Update  
February 16, 2023



## Using Software-Based Engineering Tools

- ESA is reviewing direction with regards to using software-based engineering tools.
- PEO has a Guideline entitled “Professional Engineers Using Software-Based Engineering Tools”
- ESA has reviewed this Guideline and believes it suitable as a basis for providing direction for Regulation 22/04.
- Link: [Professional Engineers Using Software-Based Engineering Tools.pdf \(peo.on.ca\)](https://www.peo.on.ca/professional-engineers-using-software-based-engineering-tools.pdf)

# Using Software-Based Engineering Tools

- **ESA's Plan**
  - ESA Internal Review of PEO Guideline \* Complete
  - Advice: Third Party Guideline Working Group \* On-Going
  - Advice: UAC \* Future
  - Review inclusion into Technical Guidelines \* Future



# Connection Authorization – Power Production Sources Paralleled with Utility – Grid Support Regulation 22/04

Feedback  
February 16, 2023

## Connection Authorization – Power Production Sources Paralleled with Utility – Grid Support

- Customer Owned
- Including Bi-Directional EVSE, all Power Production Sources
- OESC section 84
  - Interconnection of electric power production sources.
- Rule 84-002
  - Interconnection arrangements shall be in accordance with the requirements of the supply authority.
- Large systems require a Plan Review submission (Bulletin 2-11-\*)
  - ESA will ask for confirmation that there was communication with the Electrical Distributor
- All power production sources paralleled with utility require a Connection Authorization
  - ESA will send a Connection Authorization to the Electrical Distributor indicating interconnected electrical power production sources. (Rule 2-012)
  - Discussion on Grid Support Inverters.



# Guideline for Distributed Energy Resources (DER) - Revised

Regulation 22/04

Update  
February 16, 2023



## Guideline for Distributed Energy Resources (DER) - Revised

- Last UAC requested feedback with regards to the existing Guideline
- ESA received a request to revise
- ESA agreed with 2 requested revisions, deemed minor wording improvements

# Guideline for Distributed Energy Resources (DER) - Revised

- Revision #1

**Technical Considerations**

~~Needless to say~~, storage used for power quality should produce high-quality power output and should not adversely affect the grid. Typically, the discharge duration required for the power quality application ranges from a few seconds to about one minute.

- Revision #2

**Technical Considerations**

~~Of course~~, storage used for reserve capacity must have enough stored energy to discharge for the required amount of time (usually at least one hour).

# Guideline for Distributed Energy Resources (DER) - Revised

- Guideline was bumped to version 2.1
- Guideline has been posted to the ESA website
- [Regulation Guidelines - Electrical Safety Authority \(ESA\) \(esasafe.com\)](https://esasafe.com)
- Guideline to be revisited in 1 years time



# Professional Engineer Licence Status

## Regulation 22/04

Feedback  
February 16, 2023

## Professional Engineer Licence Status O.Reg. 22/04

- PEO Licence Status (from PEO Website)

PEO STATUS OPTIONS		
SITUATIONS	PRACTICE STATUS	LICENCE STATUS
I am practising or intend to practise.	Practising	Permitted to practise
I am not practising and agree to CPD hours for a Licence Status of "Permitted to practise."	Not practising	Permitted to practise
I am not practising and prefer no CPD hours for a Licence Status of "Not permitted to practise."	Not practising	Not permitted to practise
I am on fee remission.	Not practising	Not permitted to practise
My licence is suspended.	Not practising	Not permitted to practise

SITUATIONS	PRACTICE STATUS	LICENCE STATUS
I am practising or intend to practise.	Practising	Permitted to practise
I am not practising and agree to CPD hours for a Licence Status of "Permitted to practise."	Not practising	Permitted to practise

Public Visible  
Status



## Professional Engineer Licence Status O.Reg. 22/04

- Under O.Reg. 22/04, ESA requires a Professional Engineer to have a licence status “Permitted to practice” to sign Ontario Regulation 22/04 documentation under the definition of “professional engineer”
- DB-02-19-v1 addresses “Licence Status” for section 7 of O.Reg. 22/04.
  - Distributor Bulletin will be updated to align with current PEO practice and address all applicable sections and will be shared with UAC members prior to publishing



# Utility Advisory Council Survey Results 2022

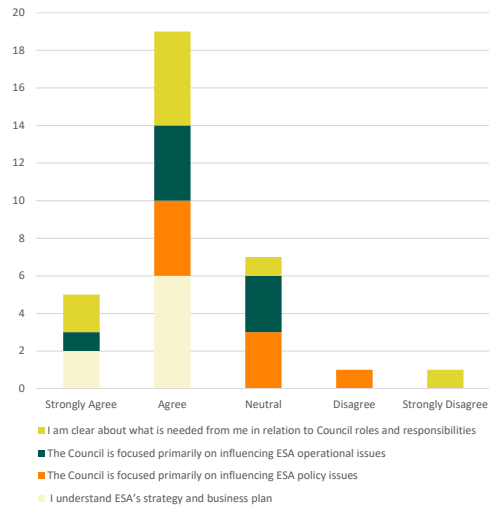


## Survey Overview

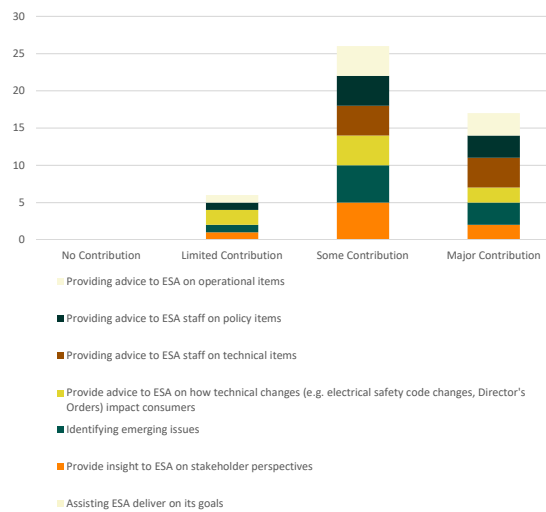
- UAC survey was conducted between October 11 and November 11, 2022
- 8 members responded and provided feedback



# Understanding of Mandate

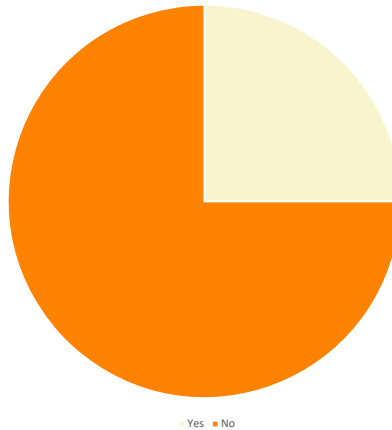


# Council Achievements

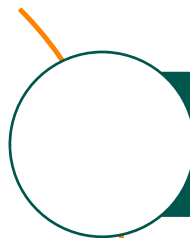


## Council Achievements

Is there anything important the Council did not accomplish over the past year?



## What Was Not Accomplished?



Some items on follow up list have been around for years

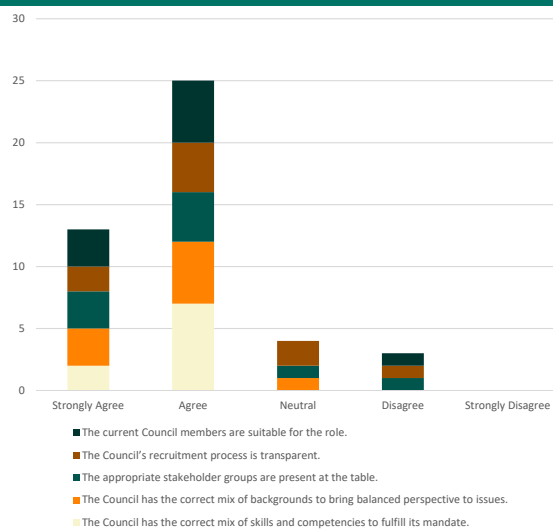


Updating the Technical Guidelines around Reg 22/04. A 5 year review window was accepted but never addressed

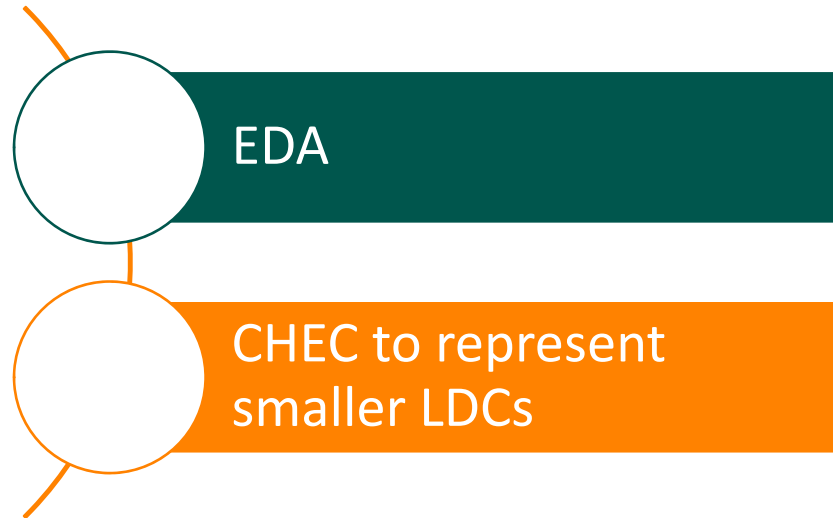
## How Could the Council be More Effective?



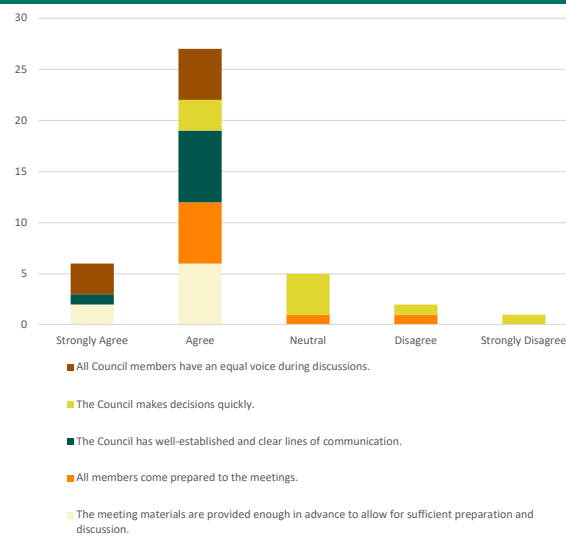
## Council Membership



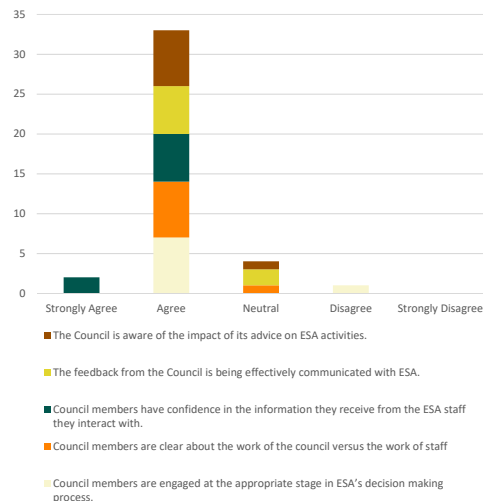
## Council Membership: Who is Missing?



## Council Meetings and Leadership



## Interaction Between ESA and the Council



## Key Takeaways

- UAC members have a strong understanding of the Council's mandate and achievements
- Respondents were divided regarding meeting preparation and the Council's ability to act quickly
- Additional representation from smaller LDCs could be beneficial

## Next Steps

- Commitment to hold an in-person meeting in 2023

## Did We Miss Anything?

Thoughts?

Questions?

Concerns?



# EV Discussion

## Regulation 22/04

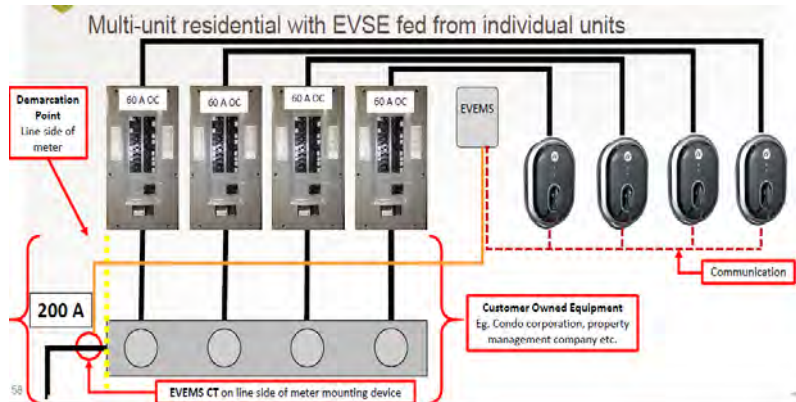
Feedback  
February 16, 2023

# EV Discussion

- ESA is looking for advice regarding practices of Distributor's
- ESA would like to know more about:
  - Any changes undertaken or planned regarding loading (diversity factor) for transformers and conductors?
  - Electric Vehicle Energy Management Systems (EVEMS)
    - Ownership
    - Installation restrictions
  - "New" equipment related to EV installations

## EV Discussion – Example EVEMS – Protects Service to MURB

- Ownership of EVEMS?
- When does EVEMS get installed (1<sup>st</sup> or when needed)?
- Communications harmonization of customer chargers?
- Settings of EVEMS for transformer or just conductor?
- Concerns with TOU billing? (7pm)



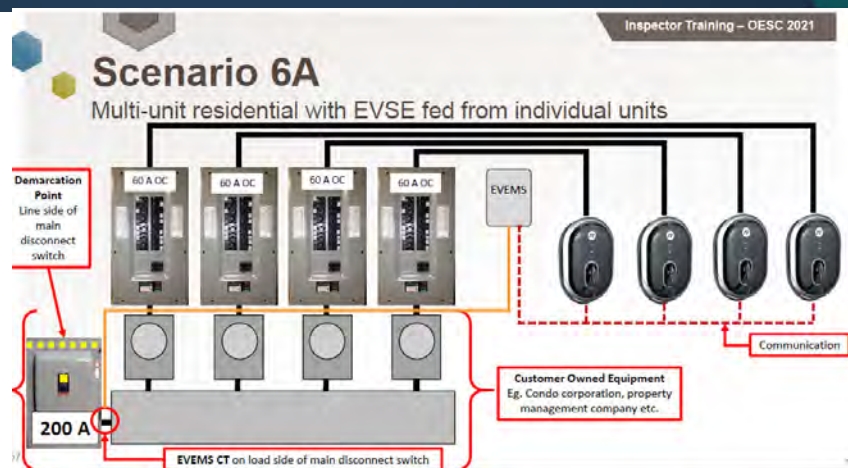
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EV Discussion | February 16, 2023



## EV Discussion – Example EVEMS – Protects Service to MURB

- After line side of 200A OC LDC conductor may be smaller than customer service conductor
- Individual units could be monitored by EVEMS



4

EV Discussion | February 16, 2023





# EV Discussion

- Monitoring hardware installed on transformers?



- Meter base mounted devices for EV charging



<https://connectder.com/>





# Vegetation Management

Update  
February 16, 2023

## Vegetation Management

**Distributor Bulletin**

**Vegetation Management Obligations**

**Distribution Company Awareness**

O.Reg. 22/04 requires Electrical Distributors to manage vegetation around all Electrical Distributor owned overhead conductors including primary and secondary distribution lines (both secondary bus and services). ESA is concerned with distribution line contacts caused by unauthorized persons such as property owners and non-utility arborists pruning or removing trees near distribution lines who may not be aware of the required clearances and safe limits of approach around distribution lines.

**Regulation 22/04 Excerpt**

**Interpretation**

1. In the Regulation,

"distribution line" means an electricity distribution line, transformers, plant or equipment used for conveying electricity at voltages of 50,000 volts or less;

"secondary distribution line" means an electricity distribution line conveying electricity at 750 volts or less phase to phase

**Safety Standards**

4(4) "All overhead distribution lines, including secondary distribution lines, shall meet the following safety standards:

4(4.3) Energized conductors and live parts shall be barricaded such that vegetation, equipment or unauthorized persons do not come in contact with them or draw arcs under reasonably foreseeable circumstances."

**ESA Recommends**

- Electrical Distributors should review and if needed modify their Conditions of Service, vegetation management practices and other measures as necessary to avoid unauthorized people from contacting overhead lines. Recognizing the requirements of O. Reg. 22/04, vegetation management in proximity to distributor-owned lines, on both public right of way and private property, is ultimately the Distributor's responsibility.
- If Electrical Distributors contract vegetation management work around their distribution lines, they should hire Utility Arborists that are 444B Certified and authorized to prune, clear vegetation, fell or remove trees within the Electrical Utility Safety Rules defined "Safe Limits of Approach".

November 1, 2020 1 of 1 Bulletin DB-12-09-v1

Provincial Office: 155A Matheson Blvd. West, Suite 200, Mississauga, Ontario L5R 3L5  
Website: <https://esa.on.ca> E-Mail: [Utility.Regulations@electricalsafety.on.ca](mailto:Utility.Regulations@electricalsafety.on.ca)

Draft DB-12-09 has been revised, added:

- Regulation 22/04 Excerpt - Definitions
  - distribution line
  - secondary distribution line
- ESA Recommends
  - modify vegetation management practices and other measures to avoid unauthorized people from contacting overhead lines
  - vegetation management is ultimately the responsibility (under O.Reg. 22/04) of Distributor for public and **private** property
  - If contracting, hire Utility Arborists that are 444B certified

