

## Engineering Practices and Regulation 22/04 - Sections 4&5

### Distribution Company Awareness

The intent of this bulletin is to clarify the process Local Distribution Companies (LDCs) follow when they are looking to introduce engineering practices, to ensure that they meet the Safety Standard requirements of Regulation 22/04 – Sections 4&5.

### ESA Direction

Regulation 22/04 requires that the primary Safety Standards be met when working on the distribution system. An LDC is deemed to meet the Safety Standards when Section 5 of Regulation 22/04 is met or exceeded. In the event that an LDC wishes to introduce an engineering practice which does not meet / deviates from the Safety Standards, the LDC shall contact the ESA Utility Regulations department to review the engineering practice. Failure to inform ESA may result in an annual Audit and/or Compliance Investigation finding (Non-Compliance or Needs Improvement) by ESA.

The LDC does not have to contact ESA in the event that ESA has issued confirmation that the engineering practice is acceptable, typically this will be done by issuance of a Distributor Bulletin. Where an LDC is unsure whether the practice is covered by a confirmation issued by ESA, LDCs are encouraged to follow the process detailed in the following section in order to ensure compliance with Regulation 22/04.

### ESA's Process

Please contact Utility Regulations, preferably by email at [Utility.Regulations@electricalsafety.on.ca](mailto:Utility.Regulations@electricalsafety.on.ca) to inform ESA of the engineering practice. For the review process, ESA will require a description of the engineering practice to be submitted in writing. ESA will review the details of the practice and provide direction with regards to compliance with Regulation 22/04. Confirmation from ESA of the acceptance of the engineering practice will be issued in writing.

ESA will use the information gathered from reported practices to:

1. Evaluate the current requirements of Regulation 22/04 and review Regulation 22/04 for amendments;
2. Evaluate proposing amendments to the Standards and Codes identified within Regulation 22/04 - Section 5; and
3. Ensure ESA has a record of the engineering practice and evaluates a Distributor Bulletin recognizing the practice.

## Examples

1) As of this bulletin's publication, ESA has recognized that CAN/CSA-22.3 No. 61936-1:08 can be used to meet the safety standards of Regulation 22/04 (see Distributor Bulletins), despite not being included in the current wording of Regulation 22/04 for distribution stations.

### **When safety standards met**

5. (4) Distribution stations that meet the requirements set out in Rules 2-100 to 2-404 of section 2 and in sections 3, 4, 10, 12, 14, 18, 26, 28, 36, 75, 80 and 84 of the **ESC** or that meet the requirements of **National Electrical Safety Code C2-2017** are deemed to meet the safety standards set out in subsections 4 (2) and (6).

2) As of this bulletin's publication, ESA has not recognized that the safety standards have been met or exceeded with respect to ensuring metal parts of an installation that are not intended to be energized and that are accessible to unauthorized persons are effectively grounded, when the ground electrodes do not extend below the frost level in any of the installations even when practicable (C22.3 No. 7-15) and do not utilize driven ground rods (ESC) for underground installations.

## Regulation 22/04 Excerpts

### **Safety standards**

4. (5) *4. Metal parts of the installation that are not intended to be energized and that are accessible to unauthorized persons shall be effectively grounded.*

### **When safety standards met**

5. (3) *Underground distribution lines that meet the requirements of **CSA Standard C22.3 No. 7-15 Underground Systems** or the requirements set out in Rules 2-100 to 2-404 of section 2 and in sections 3, 4, 10, 12, 14, 18, 26, 28, 36, 75, 80 and 84 of the **ESC** are deemed to meet the safety standards set out in subsections 4 (2) and (5).*

## CSA C22.3 No. 7 Excerpts

### **15.5 Supply grounding electrodes and connections**

#### **15.5.2**

*Where practicable, grounding electrodes shall be installed such that they **extend below the frost level.***

## OESC Excerpt

### **36-302 Station ground electrode**

*(1) Every outdoor station shall be grounded by means of a station ground electrode that shall meet the requirements of Rule 36-304 and shall*

*(a) consist of a minimum of **four driven ground rods** spaced at least the rod length apart and, where practicable, located adjacent to the equipment to be grounded.*