CAN/ULC 801:2025

Standard on Electric Utility Workplace Electrical Safety for Generation, Transmission, and Distribution

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Standard on Electric Utility Workplace Electrical Safety for Generation, Transmission, and Distribution, CAN/ULC 801

Second Edition, Dated December 31, 2014

Summary of Topics

This revision to CAN/ULC 801 dated December 1, 2025 includes the following changes in requirements:

– Introduce Term "Reasonably Practicable"; 4.1.2.4.1, 4.5.8.3, 4.6.3.3, 7.15.2.4, 7.15.5.2, 7.15.6.2, 8.3.2, 10.2.2, and 10.3.2.1

– Arc Rated Clothing; Section 8.4

– Arc Flash Boundary; 3.8

– Meter Pulling; 7.13.1.1 and 7.13.2.2

– Harmonization of Shock Level; 4.5.7.2, 4.5.7.3, 6.2.1.1, 6.2.1.2, 7.5.1.2, and 7.12.1.1

– Face Protection Requirements; 4.4.5.2

– DC Incident Energy, Hierarchy of Control, Arc Flash Risk Assessment, etc.; 4.4.5.2, 8.1.1, 8.1.2, 8.2.2, 8.2.3, 8.2.6, 8.3.3, 8.4.11, 8.2.7, 8.2.8, 8.2.9, 8.2.10, and 8.4.10

– Fall Protection; 4.5.8.9 and 4.5.8.10

– Human Performance; Annex G

– Updates to align with UL style manual

Text that has been changed in any manner or impacted by ULSE's electronic publishing system is marked with a vertical line in the margin.

The new and revised requirements are substantially in accordance with Proposal(s) on this subject dated January 10, 2025, May 23, 2025, and July 25, 2025.

PLEASE NOTE THAT CERTAIN CODES MAY REFER TO A SUPERSEDED VERSION OF THIS STANDARD. IN THOSE INSTANCES, THE RELEVANT VERSIONS ARE AVAILABLE FOR PURCHASE.

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CAN/ULC 801:2025

Standard on Electric Utility Workplace Electrical Safety for Generation, Transmission, and Distribution

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BIBLIOGRAPHY

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PREFACE

This is the Second Edition of the Standard on Electric Utility Workplace Electrical Safety for Generation, Transmission, and Distribution, CAN/ULC 801.

This Edition of the Standard has been formally approved by the ULC Standards Committee on Electric Utility Workplace Electrical Safety.

This Standard has been developed in compliance with the requirements of SCC for accreditation of a Standards Development Organization.

Only metric SI units of measurement are used in this Standard. If a value for measurement is followed by a value in other units in parentheses, the second value may be approximate. The first stated value is the requirement.

Annexes A – H, identified as informative, are for informational purposes only.

In Canada, there are two official languages, English and French. All safety warnings must be in French and English. Attention is drawn to the possibility that some Canadian authorities may require additional markings and/or installation instructions to be in both official languages.

This Second Edition National Standard of Canada is based on, and now supersedes, the First Edition.

Attention is drawn to the possibility that some of the elements of this Canadian standard may be the subject of patent rights. ULC Standards shall not be held responsible for identifying any or all such patent rights.

Requests for interpretation of this Standard should be sent to ULC Standards. The requests should be worded in such a manner as to permit a “yes” or “no” answer based on the literal text of the requirement concerned.

This CAN/ULC 801 Standard is under continuous maintenance, whereby each revision is approved in compliance with the requirements of SCC for accreditation of a Standards Development Organization. In the event that no revisions are issued for a period of four years from the date of publication, action to revise, reaffirm, or withdraw the standard shall be initiated.

Comments or proposals for revisions on any part of the Standard may be submitted at any time. Proposals should be submitted via a Proposal Request in the Collaborative Standards Development System (CSDS) at https://csds.ul.com.

This Standard is intended to be used for conformity assessment.

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1 SCOPE

1.1 This Standard applies to the construction, operation, maintenance and replacement of electric utility systems that are used to generate, transform, transmit, distribute or deliver electrical power or energy to consumer services or their equivalent, including:

a) Equipment located in easements, rights of way, or in other recognized agreements;

b) Equipment located on property owned or leased by the electric utility for the purpose of communication, metering and control of electrical power or energy;

c) Service drops or laterals, associated metering, and street lighting under the exclusive control of electric utilities;

d) Facilities used to generate electrical power or energy for electric utility systems; and

e) Voltage levels up to 800 kV a.c. line-to-line (L-L) and 600 kV d.c.

1.2 The purpose of this Standard is to provide safety performance requirements for electric utilities, workers and employers involved in work on or *near* electric generation, transmission and distribution systems.

1.3 If a difference of interpretation arises with respect to the application of this Standard, the decision of the employer or the employer's representative shall be final. This decision shall not result in any worker performing work in a manner that is hazardous to the worker, fellow workers or the public.

2 REFERENCE PUBLICATIONS

(Section 2 deleted)

2.1 *Deleted*

2A Referenced Publications

2A.1 Any undated reference to a code or standard appearing in the requirements of this Standard shall be interpreted as referring to the latest edition of that code or standard.

2A.2 The following publications are referenced in this Standard:

ASSE A10.31, *Safety Requirements, Definitions and Specifications for Digger Derricks*

ASTM B33, *Standard Specification for Tin-Coated Soft or Annealed Copper Wire for Electrical Purposes*

ASTM D120, *Standard Specification for Rubber Insulating Gloves*

ASTM D178, *Standard Specification for Rubber Insulating Matting*

ASTM D1049, *Standard Specification for Rubber Insulating Covers*

ASTM D2865M, *Standard Practice for Calibration of Standards and Equipment for Electrical Insulating Materials Testing*

ASTM F855, *Standard Specifications for Temporary Protective Grounds to be Used on De-energized Electric Power Line and Equipment*

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ASTM F887, *Standard Specifications for Personal Climbing Equipment*

ASTM F1117, *Standard Specification for Dielectric Footwear*

ASTM F1506, *Standard Performance Specification for Flame Resistant and Arc Rated Textile Materials for Wearing Apparel for Use by Electrical Workers Exposed to Momentary Electric Arc and Related Thermal Hazards*

ASTM F1701, *Standard Specification for Unused Rope with Special Electrical Properties*

ASTM F1891, *Standard Specification for Arc and Flame Resistant Rainwear*

ASTM F1959/F1959M, *Standard Test Method for Determining the Arc Rating of Materials for Clothing*

ASTM F2178, *Standard Test Method for Determining the Arc Rating and Standard Specification for Eye or Face Protective Products*

ASTM F2249, *Standard Specification for In-Service Test Methods for Temporary Grounding Jumper Assemblies Used on De-energized Electric Power Lines and Equipment*

ASTM F2321, *Standard Specification for Flexible Insulated Temporary By-Pass Jumpers*

ASTM F2621, *Standard Practice for Determining Response Characteristics and Design Integrity of Arc Rated Finished Products in an Electric Arc Exposure*

ASTM F2675/F2675M, *Standard Test Method for Determining Arc Ratings of Hand Protective Products Developed and Used for Electrical Arc Flash Protection*

ASTM F2676, *Standard Test Method for Determining Protective Performance of an Arc Protective Blanket for Electric Arc Hazards*

ASTM F2715, *Standard Specification for Temporary Protective Equipotential Bond Mat to be Used on De-Energized Equipment*

ASTM F3258, *Standard Specification for Protectors for Rubber Insulating Gloves Meeting Specific Performance Requirements*

ASTM F3272, *Standard Guide for Selection, Care, and Use of Arc Protective Blankets*

CGSB-155, *Workwear for Protection Against Hydrocarbon Flash Fire*

CSA B354.1-04 , *Portable Elevating Work Platforms*

CSA C22.2 No. 61010-1, *Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use – Part 1: General Requirements*

CSA C22.2 No. 61010-031AMD1, *Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use – Part 031: Safety Requirements for Hand-Held Probe Assemblies for Electrical Measurement and Test*

CSA C22.2 No. 61010-2-032, *Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use – Part 2-032: Particular Requirements for Hand-Held and Hand-Manipulated Current Sensors for Electrical Test and Measurement*

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CSA C22.3 No. 1, *Overhead Systems*

CSA C22.3 No. 7, *Underground Systems*

CSA C225, *Vehicle-Mounted Aerial Devices*

CSA CAN3-C235, *Preferred Voltage Levels for AC Systems, 0 to 50 000 V*

CSA Z94.1, *Industrial Protective Headwear – Performance, Selection, Care and Use*

CSA Z94.2, *Hearing Protection Devices – Performance, Selection, Care and Use*

CSA Z94.3, *Eye and Face Protectors*

CSA Z94.3.1, *Selection, Use and Care of Protective Eyewear*

CSA Z96, *High-Visibility Safety Apparel*

CSA Z150, *Safety Code on Mobile Cranes*

CSA Z195, *Protective Footwear*

CSA Z259.1, *Body Belts and Saddles for Work Positioning and Travel Restraint*

CSA Z259.2.1, *Fall Arresters, Vertical Lifelines and Rails*

CSA Z259.2.2, *Self-Retracting Devices*

CSA Z259.2.3, *Descent Devices*

CSA Z259.10, *Full Body Harnesses*

CSA Z259.11, *Energy Absorbers and Lanyards*

CSA Z259.12, *Connecting Components for Personal Fall Arrest Systems (PFAS)*

CSA Z259.13, *Flexible Horizontal Lifeline System*

CSA Z259.14, *Fall Restrict Equipment for Wood Pole Climbing*

CSA Z259.15, *Anchorage Connectors*

CSA Z259.16, *Design of Active Fall-Protection Systems*

CSA Z460, *Control of Hazardous Energy Lockout and Other Methods*

CSA Z462, *Workplace Electrical Safety*

CSA Z1002, *Occupational Health and Safety – Hazard Identification and Elimination and Risk*

Assessment and Control Guideline for Excavation in the Vicinity of Utility Lines-1.0

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Limits of Human Exposure to Radiofrequency Electromagnetic Fields in the Frequency Range from 3 kHz to 300 GHz – Safety Code 6

CIGRE 151, *Guidelines for Insulation Coordination in Live Working*

IEC 60050, *International Electrotechnical Vocabulary (IEV)*

IEC 60079-14, *Explosive atmospheres – Part 14: Electrical installations design, selection and erection*

IEC 60092-101, *Electrical installations in ships – Part 101: Definitions and general requirements*

IEC TS 60479-1, *Effects of current on human beings and livestock – Part 1: General aspects*

IEC 60947-1, *Low-voltage switchgear and controlgear – Part 1: General rules*

IEC 61010-2-032, *Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 2-032: Particular requirements for hand-held and hand-manipulated current sensors for electrical test and measurement*

IEC 61010-2-033, *Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 2-033: Particular requirements for hand-held multimeters and other meters for domestic and professional use, capable of measuring mains voltage*

IEC 61111, *Live working – Electrical insulating matting*

IEC 61158-2, *Industrial communication networks – Fieldbus specifications – Part 2: Physical layer specification and service definition*

IEC/TR 61243-6, *Live working – Voltage detectors – Part 6: Guidelines on non-contact voltage detectors (NCVD) for use at nominal voltages above 1 kV a.c.*

IEC 61557-4, *Electrical safety in low voltage distribution systems up to 1 000 V a.c. and 1 500 V d. c. – Equipment for testing, measuring or monitoring of protective measures – Part 4: Resistance of earth connection and equipotential bonding*

IEC 61557-5, *Electrical safety in low voltage distribution systems up to 1 000 V a.c. and 1 500 V d. c. – Equipment for testing, measuring or monitoring of protective measures – Part 5: Resistance of earth*

IEC 61557-7, *Electrical safety in low voltage distribution systems up to 1 000 V a.c. and 1 500 V d. c. – Equipment for testing, measuring or monitoring of protective measures – Part 7: Phase sequence*

IEC 61821, *Electrical installations for lighting and beaconing of aerodromes – Maintenance of aeronautical ground lighting constant current series circuits*

IEC 61892-2, *Mobile and fixed offshore units – Electrical installations – Part 2: System Design*

IEC 61968-2, *Application integration at electric utilities – System interfaces for distribution management – Part 2: Glossary*

IEC 62128-1, *Railway applications – Fixed installations – Electrical Safety, Earthing and the Return Circuit – Part 1: Protective provisions against electric shock*

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IEC TR 62263, *Live working – Guidelines for the installation and maintenance of optical fibre cables on overhead power lines*

IEEE C2, *National Electrical Safety Code*

IEEE C37.100, *Standard Definitions for Power Switchgear*

IEEE 516, *Guide for Maintenance Methods on Energized Power Lines*

IEEE 1048, *Guide for Protective Grounding of Power Lines*

IEEE 1584, *Guide for Performing Arc Flash Hazard Calculations*

IEEE 1654, *RF Protection of Personnel Working in the Vicinity of Wireless Communications Antennas Attached to Electric Power Line Structures*

ISO 472, *Plastics – Vocabulary*

ISO 16368, *Mobile elevating work platforms – Design calculations, safety requirements and test methods*

ISO/IEC 17000, *Conformity Assessment – Vocabulary and general principles*

ISO/IEC 17025, *General Requirements for the Competence of Testing and Calibration Laboratories*

ISO/IEC Guide 51, *Safety aspects – Guidelines for their inclusion in standards*

NEMA C29.2 B, *Insulators – Wet-Process Porcelain and Toughened Glass – Transmission Suspension Type*

NFPA 70E, *Standard for Electrical Safety in the Workplace*

NFPA 2112, *Standard on Flame Resistant Garments for the Protection of Industrial Personnel Against Flash Fire*

ULC S508, *Rating and Fire Testing of Fire Extinguishers*

ULC 60743, *Live Working – Terminology for Tools, Devices and Equipment* (IEC 60743, IDT)

ULC 60832-1, *Live Working – Insulating Sticks and Attachable Devices – Part 1: Insulating Sticks* (IEC 60832-1, MOD)

ULC 60832-2, *Live Working – Insulating Sticks and Attachable Devices – Part 2: Attachable Devices* (IEC 60832-2, MOD)

ULC 60855, *Live Working – Insulating Foam-Filled Tubes and Solid Rods for Live Working* (IEC 60855, MOD)

ULC 60895, *Live Working – Conductive Clothing for Use at a Nominal Voltage up to 800 kV a.c. and ± 600 kV d.c.* (IEC 60895, MOD)

ULC 60900, *Live Working – Hand Tools for use up to 1 000 V a. c. and 1 500 V d. c.* (IEC 60900, MOD)

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ULC 60903, *Live Working – Gloves of Insulating Material* (IEC 60903, MOD)

ULC 60984, *Sleeves of Insulating Material for Live Working* (IEC 60984, MOD)

ULC 61112, *Live Working – Blankets of Insulating Material for Electrical Purposes* (IEC 61112, MOD)

ULC 61229, *Rigid Protective Covers for Live Working on a. c. Installations* (IEC 61229, MOD)

ULC 61230, *Live Working – Portable Equipment for Grounding and Bonding* (IEC 61230, IDT)

ULC 61235, *Live Working – Insulating Hollow Tubes for Electrical Purposes* (IEC 61235, IDT)

ULC 61236, *Live Working – Saddles, Stick Clamps and their Accessories* (IEC 61236, MOD)

ULC 61243-1, *Live Working – Voltage Detectors – Part 1: Capacitive Type to be Used for Voltage Exceeding 1 kV a.c.* (IEC 61243-1, MOD)

ULC 61243-2, *Live Working – Voltage Detectors – Part 2: Resistive Type to be Used for Voltages of 1 kV to 36 kV a.c.* (IEC 61243-2, MOD)

ULC 61243-3, *Live Working – Voltage Detectors – Part 3: Two-Pole Low-Voltage Type* (IEC 61243-3, MOD)

ULC 61328, *Live Working – Guidelines for the Installation of Transmission Line Conductors and Earthwires – Stringing Equipment and Accessory Items* (IEC TR 61328, MOD)

ULC 61472, *Live Working – Minimum Approach Distances for A. C. Systems in the Voltage Range 72,5 Kv to 800 Kv – A Method of Calculation* (IEC 61472, IDT)

ULC 61477, *Live Working – Minimum Requirements for the Utilization of Tools, Devices and Equipment* (IEC 61477, MOD)

ULC 61478, *Live Working – Ladders of Insulating Material* (IEC 61478, IDT)

ULC 61479, *Live Working – Flexible Conductor Covers (Line Hoses) of Insulating Material* (IEC 61479, IDT)

ULC D61481, *Live Working – Portable Phase Comparators for Use on Voltages from 1 kV to 36 kV a.c.* (IEC 61481-A2, MOD)

ULC 61482-1-1, *Live Working – Protective Clothing against the Thermal Hazards of an Electric Arc – Part 1-1: Test Methods-Method 1: Determination of the Arc Rating (ATPV or EBT50) of flame resistant materials for clothing* (IEC 61482-1-1, IDT)

ULC 61482-2, *Live Working – Protective Clothing against the Thermal Hazards of an Electric Arc –Part 2: Requirements* (IEC 61482-2, MOD)

ULC 61911, *Live Working – Guidelines for the Installation of Distribution Line Conductors – Stringing Equipment and Accessory Items* (IEC TR 61911, IDT)

ULC 62192, *Live Working – Insulating Ropes* (IEC 62192, MOD)

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ULC 62193, *Live Working – Telescopic Sticks and Telescopic Measuring Sticks* (IEC 62193, MOD)

ULC 62237, *Live Working – Insulating Hoses with Fittings for Use with Hydraulic Tools and Equipment* (IEC 62237, MOD)

3 GLOSSARY

NOTE: A term may have multiple definitions. The applicable definition depends upon the context in which the term is used.

Terms used in this Standard that are in *italic* print are defined as follows:

3.1 ***ACCESSIBLE*** –

1. An object or device that can be inadvertently touched or approached nearer than a safe distance by any person; applies to objects not suitably *guarded* or *insulated*. [Definition of IEC 60092-101, modified]

2. An area to which, under normal operating conditions, one of the following applies:

i. Access can be gained without the use of a tool;

ii. The means of access is deliberately provided to the operator;

iii. The operator is *instructed* to enter regardless of whether or not a tool is needed to gain access.

NOTE: The terms "access" and *accessible*, unless qualified, relate to an operator access area as defined above. [Definition of IEC 62282-3-1, modified]

3.2 ***AERIAL DEVICE*** – Any device, extensible, articulating, or both, that is primarily designed and used to position personnel. The device may also be used to handle material, if designed and equipped for that purpose. [Definition of CSA-C225]

3.3 ***ALIVE*** – see *ENERGIZED*.

3.4 ***APPROVAL*** – Confirmation by an authority of conformance to defined requirements.

3.5 ***ARBOURIST*** – A worker that specializes in the control, modification and removal of vegetation; a prerequisite qualification to becoming a *Utility Arbourist*.

3.5A ARC FLASH BOUNDARY – When an arc flash hazard exists, an approach limit from an arc source at which incident energy equals 1.2 cal/cm^2 (5 J/cm^2).

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3.6 ***ARC FLASH HAZARD*** – see *ELECTRIC ARC HAZARD*.

3.7 ***ARC PROTECTIVE BLANKET*** – Flat protective cover used as a *barrier* for the protection of workers against arc flash and arc blast.

3.8 ***ARC-RATED***(adj) – That which provides protection against the thermal effects of an electric arc under specific arc testing conditions.

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